An Inaugural Address
ON
THE COMPARATIVE MORTALITY OF ENGLISH DISTRICTS.

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GENTLEMEN,—In the address which I had the honour to read before you a year ago I recounted the history of the efforts which have been made in England during the past 50 years for the improvement and protection of the public health, and I endeavoured to estimate the degree of success which these efforts had attained. We found that—partly, no doubt, through the general amelioration of social conditions, but partly also, as there was good reason to believe, as the result of efforts specially directed towards the improvement of the public health—there had been during the half century under review a marked decline of the death-rate, it having fallen from 23·1 per 1000 inhabitants per annum in the five years 1847–51 to 18·1 in the five years 1892–96. This fall, moreover, has taken place in spite of the increasing aggregation of the population in towns, a circumstance which of itself would have tended in a contrary direction.

But the satisfaction which we might otherwise feel at this achievement is subdued when we examine the contemporary mortality statistics of different districts, for we find that at the present time the death-rate in the unhealthiest districts of England and Wales exceeds that in the healthiest districts by a far greater amount than that by which the death-rate of England and Wales 50 years ago exceeded the death-rate of the present day. Thus, while, as I have said, in England and Wales the average annual death-rate was 23·1 in 1847–51 and 18·1 in 1892–96, a difference of 5 per 1000 persons living, the average annual death-rate in the great towns of England during the 10 years 1888–97 varied from 14·4 in Croydon to 25·5 in Liverpool, a difference of 10·1 per 1000 inhabitants, or more than double the difference between the death-rates for the whole kingdom of 1847–51 and 1892–96. If, therefore, we ascribe the reduction of mortality during the past 50 years to the improvement which has taken place in the sanitary and social conditions of the community, it is difficult to avoid the confession that the sanitary and social conditions of the most unhealthy of our towns fall short of the standard attained in the healthiest towns in a much greater degree than the sanitary and social conditions of the whole country 50 years ago fell short of those of the present day. The causes of these differences between the mortality in different districts at the present day I propose to discuss briefly to-night.

COMPARATIVE MORTALITY OF TOWN AND COUNTRY DISTRICTS.

Speaking generally, the death-rate is higher in towns than in country districts and it is higher in large towns than in smaller ones. In the 10 years 1888–97 the average annual death-rate in England and Wales was 18·4—viz., in town districts 19·3 and in country districts 16·8.[1] In the three years 1896–98 the average annual death-rates were in England and Wales 17·4 per 1000 inhabitants, in the 33 largest towns 19·0, in the 67 towns of the next size 17·2, and in the rest of England and Wales 16·3.[2] The difference between the death-rates in town and country is increased when we take into consideration the constitution of the respective populations as regards age and sex: the towns have, as a rule, a larger proportion than country districts have of young inhabitants—i.e., of persons at ages at which death is less frequent—and hence, *cæteris paribus*, they should show a lower death-rate than country districts, whereas in fact, the reverse is the case. Thus in the seven years 1892–98 the average annual death-rate recorded in the 33 largest towns of England and Wales was 20·2 per 1000 inhabitants and in England and Wales less the 33 towns 16·9, but corrected for age and sex distribution these rates become 21·3 in the 33 towns and 16·7 in the rest of the country.[3] It is to be noted, however, that the difference between the rates of mortality in town and country districts is diminishing: the proportional rates were, in 1851–60, 124 deaths in town districts to 100 deaths in country districts in equal numbers living; in 1861–70, 126 in towns to 100 in country; in 1871–80, 122 in towns to 100 in country; in 1881–90, 117 in towns to 100 in country; and in 1891–97, 115 in towns to 100 in country.[4] The higher mortality in towns as compared with country districts is very largely due to the unfavourable conditions affecting child life in towns and especially to the prevalence of infantile diarrhœa. In the three years 1896–98 the average annual death-rate in the 33 great towns of England and Wales was 19·0, and in England and Wales, less the 100 largest towns, 16·3—a difference of 2·7 per 1000 persons living. Of this difference more than half—viz., 1·4—was due to the greater mortality in the large towns from the infectious and diarrhœal diseases included under the term "zymotic," which caused in the aggregate a death-rate of 2·86 per 1000 in the great towns and 1·46 in the country, less the 100 towns. Measles caused a mortality per 1000 persons of 0·61 in the great towns and 0·34 in the country districts; scarlet fever caused death-rates of 0·18 and 0·12 respectively; diphtheria of 0·33 and 0·20; whooping-cough of 0·47 and 0·29; "fever" of 0·19 and 0·15; and diarrhœa of 1·08 and 0·50. It is noteworthy that diphtheria, which was formerly a disease of rural districts and was rare in towns, is now much more fatal in the large towns than in the rural districts and small towns. It causes the largest proportional mortality in London, while some of the great provincial towns, which are unhealthy in other respects, have but a low rate of mortality from diphtheria, as Preston and Sunderland. On the other hand, "fever," a term which includes chiefly enteric fever, is now not much more prevalent in the great towns than in the country districts, but diarrhœa is nearly twice as fatal in the great towns as in the less populous districts. The mortality among infants in their first year of life is much larger in the great towns than in the country districts, being in the former 174 and in the latter 138 out of every 1000 born. As the birth-rate is greater in towns than in country districts the greater proportion of those born who die during the first year of life will have so much the greater effect in raising the general death-rate. It used formerly to be a subject of warm discussion whether the tendency of a high birth-rate was to raise or to lower the death-rate. A high birth-rate implies, in order that so many children may be begotten, that a high proportion of the population must consist of persons of reproductive age—i.e., of ages at which the mortality is low; and though the mortality among young children is higher than that at the age-periods next following, yet where the conditions of life are favourable a comparatively large proportion of those born will survive to the years of childhood at which mortality is at its lowest. Hence where sanitary and social conditions are favourable the existence of a high birth-rate indicates that the age-constitution of the population is such that the death-rate ought to be low. On the other hand, where sanitary and social conditions are unfavourable, a large proportion of the children born die in infancy and do not reach the ages of low mortality or live to be enumerated among the population.

COMPARATIVE MORTALITY IN DIFFERENT COUNTIES.

If now we compare the death-rates prevailing in different parts of the kingdom we find differences between the death-rate in one part and that in another part greater than the difference between the aggregate death-rate of the great towns and that of the country districts. Thus, during the 10 years 1888–99 the average annual death-rate per 1000 persons living varied in the 11 divisions of the Registrar-General from 15·8 in the South Eastern and 15·9 in the South Midland divisions, to 19·0 in Yorkshire, 19·3 in Wales, 19·6 in London, and 20·9 in the North-Western division. In the individual registration counties the range was, of course, still greater—viz., from 14·8 in Surrey to 21·8 in Lancashire.

[Dr. Parsons here said that a line drawn across England from the mouth of the Severn to that of the Humber, or

[1] Sixtieth Annual Report of the Registrar-General, Table 29.
[2] Quarterly Reports of the Registrar-General.
[3] Annual Summaries of Weekly Reports of the Registrar-General, Table 4.
[4] Sixtieth Annual Report of the Registrar-General, p. 29.

better, to the Wash, would roughly divide the counties of high mortality from those of low mortality. He then remarked that a high mortality prevails in those parts of the kingdom in which there is a considerable Celtic element in the population, as Wales and Monmouthshire, and to a less extent in Cornwall and also in the large towns of Lancashire in which there are many Irish, as Liverpool and Preston. After describing the geological characters of the various areas he continued :]

In the N.W. half of the kingdom the birth-rate is considerably higher than in the S.E. half. In registration divisions I. to V.—i.e., London, S.E., S. Mid., E. and S.W.—in 19 counties out of 22 the average annual birth-rate in the 10 years 1887–96 was under 30 per 1000 inhabitants, and in only three—viz., London, Essex, and Northamptonshire—was it above 30. In registration divisions VI. to XI.—viz., W. Mid., N. Mid., N.W., Yorks., N., and Wales—out of 23 counties in eight the birth-rate was below 30 and in 15 above 30 per 1000 inhabitants.

TABLE I.—1887–96.

Registration divisions.	Counties in which the birth-rate per 1000 inhabitants was above—												
	24	25	26	27	28	29	30	31	32	33	34	35	36
I. to V. ...	—	2	3	9	3	2	1	2	—	—	—	—	—
VI. to XI...	1	—	2	2	2	1	4	2	4	2	1	1	1

The proportion of infants who die in their first year of life is greater in the N.W. than in the S.E. half of the kingdom. During the years 1887–96 in the 22 counties of registration divisions I. to V. the proportion of deaths under one year old to 100 births was less than 14 in 21 counties and above 14 in one only—viz., in London, where it was 15·5. In the 23 counties of registration divisions VI. to XI. the proportion was below 14 in eight counties and above 14 in 15, the highest rate being 17·3 in Lancashire.

TABLE II.—1887–96.

Registration divisions.	Counties in which the infant mortality per 100 births was above—								
	9	10	11	12	13	14	15	16	17
I. to V. ...	1	3	8	4	5	—	1	—	—
VI. to XI.	—	1	3	3	1	4	6	4	1

If, then, in the N.W. half of the kingdom a greater proportion of children are born to a given number of inhabitants than in the S.E. half, and of those born a greater proportion die in the first year of life, we have in these circumstances a partial explanation of the higher death-rates in the former than in the latter portion of the kingdom. The higher birth-rate in the divisions of the kingdom which contain the principal manufacturing and mining centres will also partly explain the circumstance that these are the divisions which experience the highest mortality from the most fatal infective and diarrhœal diseases of childhood. Whooping-cough and diarrhœa are most fatal in the first year of life, measles in the second year, scarlet fever and diphtheria in the third and fourth years of life, and therefore we might expect that these diseases would find their largest number of victims in the districts where the birth-rate was highest, and in which, therefore, children of susceptible ages were relatively most numerous.

From *measles* the average annual death-rate per 1000 inhabitants during the 10 years 1887–96 in the counties of the first group was under 0·4 in 19 and over 0·4 in three; while in the counties of the second group it was under 0·4 in 10 and over 0·4 in 13.

TABLE III.—1887–96.

Registration divisions.	Counties in which the average annual death-rate per 1000 inhabitants from measles was above—					
	0·1	0·2	0·3	0·4	0·5	0·6
I. to V.	2	12	5	2	—	1
VI. to XI.	5	2	3	8	4	1

The counties in which the death-rate from measles was highest were Lancashire, London, Staffordshire, Durham, Cumberland, and Monmouthshire, all largely urban, manufacturing, or mining, while those in which the death-rate from measles was lowest were Huntingdonshire, Rutland, Cambridgeshire, and Herefordshire, all agricultural counties.

From *scarlet fever* the average annual death-rate during the same period in counties of the first group was under 0·1 per 1000 inhabitants in 14 and above 0·1 in eight. In the counties of the second group the scarlet fever death-rate was under 0·1 in three and over 0·1 in 20.

TABLE IV.—1887–96.

Registration divisions	Counties in which the average annual death-rate per 1000 inhabitants from scarlet fever was—			
	Under 0·1	0·1	0·2	0·3
I. to V. ...	14	6	2	—
VI to XI....	3	11	7	2

The counties in which the death-rate was highest were Lancashire, South Wales, the West Riding, and Monmouthshire; those in which it was lowest were Sussex, Surrey, Suffolk, Oxfordshire, and Dorset.

The mortality from *whooping-cough* was somewhat more evenly distributed, but the counties in which it was highest—viz., London, Lancashire, Warwickshire, Monmouthshire, and Cornwall—are urban, manufacturing, or mining, and those in which it was lowest—viz., Westmorland, Dorset, Wiltshire, and Berkshire—are agricultural.

TABLE V.—1887–96.

Registration divisions.	Counties in which the average annual death-rate from whooping-cough per 1000 inhabitants was				
	0·1	0·2	0·3	0·4	0·5
I. to V. ...	1	8	9	3	1
VI. to XI. ...	1	4	11	6	1

From *diarrhœa* the death-rate varied greatly in different parts of the country during the 10 years 1887–96; the average rate in Leicestershire (1·0 per 1000 inhabitants) was five times as great as that (0·2) in the adjoining county of Rutland.

TABLE VI.—1887–96.

Registration divisions.	Counties in which the average annual death-rate from diarrhœa per 1000 inhabitants was—								
	0·2	0·3	0·4	0·5	0·6	0·7	0·8	0·9	1·0
I. to V. ...	3	11	5	2	1	—	—	—	—
VI. to XI....	4	4	1	5	1	3	2	2	1

The counties in which the diarrhœal death-rate was highest were Leicestershire, the East Riding, Lancashire, Warwickshire, Staffordshire, Durham, Nottinghamshire, the West Riding, and London; those in which it was lowest were Rutland, Westmorland, Hereford, Wilts, and Dorset.

The distribution of *enteric fever* is similar to that of diarrhœa, being high in the manufacturing and mining counties of the north and midlands and low in the agricultural counties of the south.

TABLE VII.—1887–96.

Registration divisions.	Counties in which the average annual death-rate from enteric fever per 1000 inhabitants was—			
	Under 0·1	0·1	0·2	0·3
I. to V. ...	8	14	—	—
VI. to XI.	3	12	7	1

The county in which the mortality from enteric fever was highest was Durham; next came Lancashire, Nottinghamhire, and the North Riding; and after these Cheshire, the East and West Ridings, Leicestershire, and South Wales.

It was lowest in Herefordshire, Rutlandshire, Wiltshire, and Oxfordshire, and other agricultural counties, and, unlike the death-rate from diarrhœa, it was comparatively low in London. Generally speaking, we may say that enteric fever is most fatal in the parts of England in which the midden-privy is the prevailing method of excrement disposal. Water-closets are in general use in most southern towns; and in country places, for some reason or other, the vault-privy of the south of England does not seem to favour the spread of enteric fever so much as the midden-privy of the north.

In its distribution *diphtheria* follows no such rule as do either the diarrhœal or the more specially infectious diseases. Generally speaking, the mortality from diphtheria during the years 1887–96 was lower in the populous mining and manufacturing counties of the north than in the agricultural counties of the south. But it is a peculiar feature of diphtheria that it is apt from time to time to attack particular localities in the form of protracted or recurring epidemics; and, again, after being prevalent there for a series of years, it may subsequently die out and the locality then remain for a term of years comparatively free from diphtheria. One such focus of the disease at present is to be found in London and the neighbouring counties, and another in South Wales, and in both of these regions the disease has in recent years been prevalent in large urban communities. Indeed, as I have before mentioned, diphtheria, which was formerly specially a disease of country districts, is now becoming more and more a disease of towns.

TABLE VIII.—1887-96.

Registration divisions.	Counties in which the average annual death-rate from diphtheria per 1000 inhabitants was—			
	0·1	0·2	0·3	0·4
I. to V. ...	11	9	—	2
VI. to XI. ...	22	1	—	—

The two highest were London and Essex.

Influenza.—The county death-rates from this disease are not given in the reports of the Registrar-General. I have, however, calculated them, taking the period of eight years from the first re-appearance of the disease as a notable cause of mortality in 1890 to 1897, the latest year for which figures are available.

TABLE IX.—1890–97.

Registration divisions.	Counties in which the average annual death-rate from influenza per 1000 inhabitants was—					
	Below 0·2	0·2	0·3	0·4	0·5	0·6
I. to V.	—	—	14		1	—
VI. to XI.	1	9		5	1	1

The counties in which the influenza death-rate was highest were, in order, Herefordshire, Shropshire, Wiltshire, Westmorland, North Wales, Rutland, Northamptonshire, and Buckinghamshire. The counties in which it was lowest were, in order, Durham, Northumberland, Leicestershire, Lancashire, Staffordshire, Nottinghamshire, and South Wales. In a paper which I had the honour to read before this Society in 1894, "On the Distribution of the Mortality from Influenza in England and Wales," I said: "Speaking generally, we may say that the mortality from influenza was below the average in the manufacturing and mining counties of the North and Midlands and above the average in the southern and midland agricultural counties, and in the hilly counties towards the west coast." These words, which referred to the mortality during the three years 1890–92, hold good for the more extended period now under review, the order in which the counties stand having hardly altered.

The mortality from *phthisis* is somewhat equally distributed among the different counties, the average annual death-rate from this disease in the 10 years 1887–96 ranging between 1·08 per 1000 inhabitants in Worcestershire and Rutlandshire and 1·89 per 1000 in Northumberland. It was also high in London, North and South Wales, Lancashire and the West Riding, and low in Westmorland and Buckinghamshire.

The deaths from *diseases of the respiratory organs* form a large item in the total mortality. During the 10 years 1887–96 they equalled an average annual rate of 3·5 per 1000 inhabitants out of a total death-rate of 18·6—that is to say, a mortality nearly a fifth of the whole and more than half as large again as the aggregate mortality (2·1 per 1000) caused by the "seven principal zymotic diseases."

TABLE X.—1887–96.

Registration divisions.	Counties in which the average annual death-rate from diseases of the respiratory organs per 1000 inhabitants was—					
	2·0-2·5	2·5-3·0	3·0-3·5	3·5-4·0	4·0-4·5	Above 4·5
I. to V.	1	17	3	—	1	—
VI. to XI.	2	3	10	4	3	1

The counties which had the highest death-rate from these diseases were: Lancashire, 4·9 per 1000; Monmouthshire, 4·2; the West Riding and Staffordshire, 4·1; and London, 4·0. The counties with the lowest death-rates were: Rutland and Westmorland, 2·3 per 1000; Norfolk, Cambridgeshire, Oxfordshire, and Hertfordshire, 2·6; and Bucks, Lincolnshire, Suffolk, and Dorset, 2·7. Generally speaking, it may be said that the mortality was low in the agricultural counties and high in the counties containing large smoky towns, and especially in those in which the inhabitants are largely engaged in dusty occupations. Thus in Staffordshire the death-rate from respiratory diseases was 4·1 per 1000; in Leicestershire it was only 3·0. Both are manufacturing counties, but in Leicestershire the staple industries are bootmaking and stocking-weaving—clean trades which do not employ great mechanical power in proportion to the number of hands engaged, while in Staffordshire the heavy iron trade and the pottery works require great furnaces and are responsible for a large amount of smoke, and some branches of the pottery manufacture are exceedingly dusty.

Diseases of the heart and circulatory system, being largely due to the degenerative changes of advancing years, are fatal chiefly to persons in the later periods of life, and hence we might expect to find the mortality from these diseases greatest in the counties in which elderly persons predominate—that is to say, in the agricultural counties. This is, to some extent, the case, but the counties in which the mortality from diseases of the heart and blood-vessels is highest are the hilly counties of the west—viz., those of the S.W. division, Gloucestershire, Herefordshire, Shropshire, Cumberland, Westmorland, and North Wales. In the 10 years 1887–96 the highest rate was 2·3 per 1000 in Herefordshire, and the lowest 1·2 in Middlesex.

Cancer.—The various forms of malignant disease also attack chiefly people in the middle and later stages of life; hence we find that cancer occasions a greater mortality in a population containing a larger proportion of persons at such ages than in one in which children and young adults preponderate. During the 10 years 1887–96 the average annual death-rate from cancer per 1000 inhabitants was 1·11 in Huntingdonshire, 0·92 in Cambridgeshire, and above 0·80 in North Wales, Rutland, Herefordshire, Devonshire, Shropshire, Norfolk, Sussex, and Cornwall. It was only 0·53 in Durham and was below 0·60 also in Monmouthshire, Derbyshire, Staffordshire, and Lancashire. These latter are all counties having a high birth-rate and their population must therefore contain a large proportion of children and of adults at the reproductive age, whereas the counties with a high cancer death-rate have all low birth-rates. Of the counties in the south of England Essex and Middlesex are the only ones with a cancer death-rate below 0·7 per 1000 inhabitants. Essex has a comparatively high birth-rate, and part of the cancer mortality of both Essex and Middlesex, as well as of other home counties, is probably transferred to London through persons from those counties dying in metropolitan hospitals. It has been contended by Mr. Haviland that cancer mortality is greatest in alluvial districts, near large estuaries. The high cancer mortality in Huntingdonshire and Cambridgeshire (which, as the Registrar-General has pointed out,[5] form with the adjacent low-lying parts of Northamptonshire and Lincolnshire a distinct cancer area) is in favour of this view, but

the low mortality in Essex is against it, and in the other counties I have mentioned as having a high cancer death-rate no large proportion of the population resides on alluvial soil.

It may be of interest to compare the two counties at the two ends of the scale of mortality—viz., Surrey, with an average annual crude death-rate in 1887–96 of 14·8 per 1000 inhabitants, and Lancashire, with an average rate of 21·8—nearly half as much again—and note what are the principal factors which go to make up the excess in the latter county. When the death-rates in the two counties are corrected for the age and sex-constitution of their respective populations, that of Surrey is raised to 15·0 and that of Lancashire to 23·6. Surrey thus loses its place at the head of the list of English counties, which is taken by Rutland with a corrected death-rate of 13·2, followed close by Huntingdon, Cambridgeshire, and Dorset; but, on the other hand, the bad pre-eminence of Lancashire is increased, the counties with the next highest corrected death-rates being the West Riding (20·8) and Durham (20·1). As regards the physical features of these two counties we may observe that in Surrey the greater number of the inhabitants reside on porous soils, as the alluvial and tertiary gravels, the chalk, and the green sand, while in Lancashire probably the greater number reside on the clays of the coal measures and the boulder clay, and that in Surrey people are supplied mostly with hard water from the chalk or the Thames, while Lancashire people mostly use soft upland water. In Surrey the density of population is 1·4 persons per acre; in Lancashire it is 3·3. In Surrey 60 per cent. of the population in 1891 lived in urban districts and 40 per cent. in rural districts, the density being 7·6 persons per acre in the urban districts and 0·75 persons per acre in the rural districts. In Lancashire 92 per cent. of the population lived in urban districts and only 8 per cent. in rural districts, the average number of persons per acre being 8·9 in the urban and only 0·35 in the rural districts. There is also in Lancashire a considerably greater tendency than in Surrey to overcrowding in houses. Taking the Registrar-General's standard of overcrowding in tenements—viz., a proportion of more than two persons per room—we find that in Surrey less than a third and in Lancashire more than half of the tenements consist of fewer than five rooms and that the proportion which shows overcrowding in the above sense is much greater in the latter county.

TABLE XI.

Rooms.	Surrey.		Lancashire.	
	Percentage of total tenements.	Percentage of such tenements overcrowded.	Percentage of total tenements.	Percentage of such tenements overcrowded.
1	3·6	13·7	1·18	33·9
2	6·2	10·4	7·7	26·1
3	6·6	7·25	6·2	17·7
4	15·8	4·15	38·5	5·7
—	32·2	35·5	54·2	83·4

The population of Lancashire has on the whole a younger age-constitution than that of Surrey, the proportion of persons under five years old being in Surrey 11·3 and in Lancashire 12·5 per cent., while persons over 60 years of age form in Surrey 7·5 per cent. and in Lancashire 5·7 per cent. of the population.

Of 1000 infants born 173 in Lancashire die within their first year of life, against only 113 in Surrey. Multiplying the birth-rate by the proportion of infants who die within their first year we get for every 1000 of the population 2·9 deaths of infants under one year old in Surrey and 5·5 in Lancashire. But the heavier mortality in Lancashire is not confined to infants but affects persons of all ages except extreme old age, as the following table shows :—

TABLE XII.—1887–96.

—	Average annual death-rates per 1000 persons living at each of the under-mentioned ages.											
	0	5	10	15	20	25	35	45	55	65	75	85
Surrey ...	37·1	3·6	2·2	3·1	4·1	5·3	9·7	15·9	27·8	59·3	131·6	284·6
Lancashire	69·0	5·7	3·1	4·5	5·6	8·1	14·0	23·4	43·4	88·0	163·4	280·1

The following table shows the average annual rates of mortality in the two counties during the 10 years 1887–96 from the principal causes of death :—

TABLE XIII.—*Average Annual Death-rates per 1000 Inhabitants, 1887–96.*

—	Surrey.	Lancashire.	Excess in Lancashire.		Excess in Surrey.
Small-pox	0·00	0·01	0·01		—
Measles	0·28	0·66	0·38		—
Scarlet fever	0·06	0·36	0·30		—
Fever	0·10	0·30	0·20	1·60	—
Diphtheria	0·26	0·20	—		0·06
Whooping-cough	0·32	0·50	0·18		—
Diarrhœa	0·33	0·92	0·59		—
Phthisis	1·36	1·70	0·34		—
Tabes mesenterica	0·15	0·30	0·15	0·62	—
Other tuberculous diseases ...	0·34	0·47	0·13		—
Respiratory diseases	2·41	4·91	2·50		—
Influenza (1890–97)	0·38	0·26	—		0·12
Cancer	0·70	0·57	—		0·13
Diseases of circulation	1·58	1·67	0·09		—
,, digestive system ...	0·89	1·33	0·44		—
,, urinary system ...	0·40	0·47	0·07		—
,, generative system ...	0·04	0·05	0·01		—
Venereal diseases	0·06	0·09	0·03		—
Puerperal diseases	0·05	0·10	0·05		—
Childbirth	0·05	0·09	0·04		—
Premature birth	0·46	0·59	0·13		—
Other congenital affections ...	0·09	0·12	0·03		—
Debility	0·37	0·83	0·46		—
Convulsions and laryngismus...	0·38	0·90	0·52		—
Other nervous diseases	1·85	1·75	—		0·10
Alcoholism and cirrhosis of liver	0·06	0·10	0·04		—
Violence	0·52	0·74	0·22		—
Old age	0·68	0·72	0·04		—
Other causes	0·63	1·09	0·46		—
Total	14·80	21·80	7·41		0·41
	—	14·80	0·41		—
	—	7·00	7·00		—

It will be seen that in Lancashire the death-rate from almost every cause exceeded that in Surrey. To the total excess of 7 per 1000 in Lancashire, deaths from the seven principal zymotic diseases together contributed a quota of 1·60, tuberculous diseases 0·62, and diseases of the respiratory organs 2·50. The only diseases in the list which caused a lower proportional mortality in Lancashire than in Surrey are diphtheria, influenza, cancer, and nervous diseases other than convulsions. The less fatality from adult nervous diseases in what would appear to be—so far as the masses are concerned—the less educated community is worthy of notice, though the difference is small.

The question now arises, What are the circumstances which conduce to the prevalence of the diseases to which the high mortality of Lancashire is due? Some of these fall within the category of sanitary conditions as commonly understood. In Lancashire a great increase of population due to the development of cotton-spinning took place in the earlier part of the present century before public attention had been given to questions of health, and the houses erected at that period for people of the working class were often constructed with little consideration beyond that of getting the largest return for the money. Hence in the older parts of Lancashire towns the structure and arrangement of the dwellings of the poorer classes are often very defective. In some Lancashire districts which I have visited a common defect of the houses is that the windows are not made to open or at most open only to an inadequate extent. The frequent arrangement of houses with a common court or back yard favours the propagation of infectious disease, as also do the careless habits, in many cases, of the people. The prevalence of the midden-privy has doubtless much to do with the prevalence of enteric fever and diarrhœa. The

older middens are often deep and wet, with porous walls, and the act of emptying them causes great fouling of the surface of the ground. In many Lancashire towns, and especially in Liverpool, there are quarters inhabited by low-class Irish who live in poverty and great squalor and among whom typhus fever still occurs. The staple occupations in Lancashire are less healthy than those in Surrey. Thus in 1891 in the former county 12·4 per cent. of the males were cotton operatives and 5·4 per cent. were coal-miners—occupations which are practically unrepresented in Surrey and which have a high mortality, the comparative mortality figure of the former being 1141 and of the latter 1069, that of all males being 1000. On the contrary, farmers, gardeners, and agricultural labourers—healthy classes, with comparative mortality figures respectively of 563, 553, and 666—formed collectively 12 per cent. of the population in Surrey and only 3·3 per cent. in Lancashire. Cotton operatives are especially prone to bronchitis and other diseases of the respiratory organs, attributable to working in dust and in steam-heated weaving-sheds, with subsequent exposure to cold air. But in fairness to Lancashire I ought to add that I have good reason to believe that at the present time the local authorities of, at any rate, most of the more important places are thoroughly in earnest in seeking to improve the sanitary state of their districts. No county, indeed, has exhibited greater enterprise in carrying out works for the promotion of the public health; witness the magnificent water-supplies of Liverpool and Manchester. Many Lancashire towns are endeavouring to disestablish the midden-privy and hospitals for the isolation of infectious diseases have been somewhat generally provided. The death-rate, which in the 10 years 1867–76 was 26·7, has fallen to 23·0 in 1877–86 and 21·8 in 1887–96, and we may confidently hope that it will be still further reduced as the effect of the sanitary work now in progress makes itself felt.

[Dr. Parsons here made a comparison between Dorsetshire and Durham similar to that between Lancashire and Surrey. He continued:]

COMPARATIVE MORTALITY OF THE GREAT TOWNS.

In the 10 years 1888–97 among the 33 great towns the average annual death-rate was lowest in Croydon (14·4 per 1000), followed by West Ham, Portsmouth, and Derby (17·4), and Brighton (17·5). It was highest in the Lancashire towns, especially in Liverpool and Salford (25·5), and in Manchester and Preston (24·8). The effect of correction for age- and sex-distribution is to raise the death-rate in all the large towns except Norwich and Plymouth; that of Croydon becomes 15·0 per 1000, while the death-rates of Liverpool, Manchester, and Salford become 28·0 per 1000 and over. On a superficial view no relationship is apparent between the death-rate and the density of the population; indeed, the town with the greatest number of persons per acre (West Ham) has a lower death-rate than Huddersfield, which has the smallest number. But the proportion of the population to the acreage of the whole town is no guide to the actual density in the inhabited parts, as some municipal boroughs include a wide tract of surrounding sparsely-populated country. Thus, the borough of Sheffield embraces a wide and almost uninhabited moorland region extending to the borders of Derbyshire, and the density of population, reckoned upon the whole area of the borough, is only 18·1 persons per acre; but in North Sheffield, the most populous registration sub-district, the density is 224 persons per acre. The unhealthiness of the central parts of a large town as compared with the suburbs is well illustrated in the case of London. During the 10 years 1889–98 the average annual death-rate in the central districts of London has been 23·1 per 1000, in the poor and crowded eastern districts 22·7, in the western, northern, and southern districts, containing most of the residential suburbs, 18·3, and in the outer ring 14·5. The density of population in 1891 in these groups of districts was: central, 116 persons per acre; eastern, 128; western, 71; north, 74; south, 35; and outer ring, four.

Nor is it easy to establish a connexion between the prevalence of overcrowding and a high death-rate. Taking as overcrowding a proportion of over two persons per room, among the great towns of England overcrowding is most frequent in Gateshead and almost least so in Preston; the proportion also of persons per acre is somewhat less in Preston than in Gateshead, yet the corrected death-rate 1888–97 in Gateshead was 21·1 per 1000 and in Preston 27·3. There are, indeed, not a few instances in which considerable differences not easy of explanation are observed between the death-rates of towns apparently similarly circumstanced. Thus, for some reason not lying on the surface, the Lancashire towns are much more unhealthy than those of the West Riding; Bolton, Blackburn, and Burnley are not unlike Huddersfield and Halifax in many of their circumstances; yet the corrected death-rates in the three former towns are 3 or 4 per 1000 higher than those in the two latter, the difference being especially great in the mortality from diarrhœa.

We may, I think, say that the healthiest towns are those of rapid modern growth, the development of which has taken place under proper regulation and which have been sewered from the first, so that the bulk of the houses are built on clean soil which has never been polluted by soakage from privies and cesspools and have about them a proper amount of open space. In most of the healthier towns the amount of open space about houses is regulated by by-laws on the model issued by the Local Government Board—that is to say, each newly-erected house is required to have in front of it an open space not less than 24 feet across and behind it an open space exclusively belonging to it of not less in any case than 150 square feet in area and 10 feet across, a greater distance across being required as the height of the building increases. In some towns, indeed, such as Croydon and Cardiff, still larger amounts of open space are required. On the other hand, in most of the less healthy towns the amount of space about houses is regulated by local Acts and obsolete by-laws and is less than the standard of the model by-laws. I think it likely that the prevailing arrangement of the houses upon the ground—e.g., whether they are in regularly laid-out streets or in enclosed courts or narrow alleys—has much to do with the different rates of mortality in different towns. The prevalent method of excrement disposal and removal is doubtless a potent factor. The social circumstances and psychological habits of the population are perhaps a still more powerful one.

A Clinical Lecture
ON
THE NATURE AND SIGNIFICANCE OF RIGORS IN DISEASE.

Delivered at St. Bartholomew's Hospital on Oct. 27th, 1899.

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GENTLEMEN,—During the last few weeks I have had in my wards several patients who in the course of their illnesses have suffered from one or more rigors or shivering fits, and I propose to bring them under your notice so that I may have illustrations for my lecture to-day which will relate to the whole subject of rigors as a symptom in disease.

The symptoms of a rigor or shivering fit are sufficiently familiar to you. Tremors involve the whole body and the limbs and often cause chattering of the teeth. The face is pinched and the expression is distressed. The skin is pallid and dry and the fingers are shrunken; the lips and nails are dusky; the feet, hands, nose, and ears may be cold to the touch; the respiration is hurried and shallow; the pulse is frequent and wiry—that is, small—and of high tension; the tongue is moist; and the temperature of the surface of the body is raised, although the patient has the sensation of extreme cold, especially over the back and round the abdomen. According to the nature of the existing cause of rigors there may be other concomitants, such as headache, nausea, vomiting, and pains in the back or limbs. The mind remains clear.

Rigors may be quite simple and insignificant, as, for instance, when one occurs momentarily on evacuating the bladder after a longer retention of urine than is customary, or after a sudden exposure even of a limited surface to draughts of cold air, followed by sneezing, which may or may not be preliminary to an ordinary slight coryza or common cold thus induced. Strong proof of the nervous origin of rigors is afforded by the fact that they are very seldom met with in children, even at the outset of acute diseases, and

their place is taken instead by a convulsion. In Sydenham's time, in the middle of the seventeenth century, as Dr. Norman Moore reminds me, a rigor in children was regarded as an almost certain precursor of small-pox, indicating the frequency of that malady at that time. Convulsions may likewise replace rigors in epileptics or persons of unstable nervous equilibrium.

THE PATHOLOGY OF RIGORS.

There can be no doubt that rigors are nervous manifestations affecting the vascular system, and the phenomena illustrate a condition of spasm of small blood-vessels such as is met with in states of shock or collapse. The particular nervous centre or tract involved is not exactly known, but it is connected with, or actually forms part of, the coördinating medullary centre for cardiac, vascular, and respiratory movements. This is also in intimate relation with the thermo-taxic centre, if such there be. This centre is probably excited by the unusual differences existing between the temperature of the surface of the body and that of the interior. A contraction or spasm of the small blood-vessels occurs in consequence.[1] The greater the bodily heat the greater the sensation of cold. A febrile condition being established the increased heat production in the viscera is believed to destroy the natural balance between the temperature of the interior and that of the surface of the body. Rigors thus sometimes afford evidence of the onset of pyrexia with its invariable accompaniment, increased tissue change.

Irritation of the sensory nerves, especially of those of some mucous surface, may readily induce rigors. The thrills and "creepiness" induced by tickling areas of the skin, especially of parts supplied by the fifth nerve, are of like nature in a minor degree. The mechanism is the same, an irritation conferred by an afferent nerve setting up a reflex process through the medullary centre.

Catheterism sometimes induces a rigor which thus follows an irritation of the urethral tract, and this may in turn be succeeded by a severe attack of herpes on the face or prepuce. (I am inclined to believe that this occurrence was more frequent before the days of aseptic surgery and depended often on septic catheters.) Rigors often attend the presence of irritating matters in the stomach and bowels. They occur with the passage of biliary and of renal calculi. The rigors ushering in pneumonia are commonly followed by herpes labialis, and illustrate a trophic lesion of the skin set up reflexly from the vagus through the fifth nerve. (These cases often terminate favourably.)

Of greater gravity and importance, however, are the rigors which so frequently usher in acute diseases or some local disease which is to end in suppuration. Thus we may look for them in a large number of disorders, including all the fevers, exanthemata, and infective diseases, and especially where abscesses are likely to form. In typhus, enteric, and relapsing fevers we meet with them. In influenza, catarrhs of the respiratory surfaces, and tonsillitis they are common. They may be premonitory and may also occur in the progress of many diseases, especially before the bursting of any purulent collection.

The occurrence of a rigor at the beginning of an illness is a very important matter, and we take note of it as definitely marking the first day of the onset of disease, from which date we shall reckon its duration. Thus if a rigor occurs five minutes before midnight we regard those minutes as constituting the first day; after midnight the second day of the disease has begun. This symptom then often distinctly indicates the invasion of the body by some peccant matter and the beginning of a contest in the system to resist it.

Rigors are classical features of ague and of all malarial infections, their rhythm, formerly inexplicable, now being recognised as the effect of dosages of plasmodia which are at specifically definite intervals discharged into the blood (parasitic sporulation) and set up the series of phenomena of these fevers. We know that one result of chill is to quicken into activity the inherent mischievous powers of many microbes which may be innocent, even if lodged in our bodies, till rendered active by such exposure and the depressing conditions connected with it.

In the course of many diseases we are sometimes arrested by the occurrence of a rigor. This sounds a note of alarm, and, as a rule, suggests to us the possibility of suppuration or of some source of toxic infection. It may be easy to note the focus of such a process or it may be impossible. If in the course of otitis media, of endocarditis, or of hepatitis with jaundice, a rigor occurs and is repeated at irregular intervals, we suspect the occurrence of cerebral abscess, or infective endocarditis (arterial pyæmia), or hepatic abscess, or, possibly, suppurative portal phlebitis. The occurrence of a rigor in a puerperal patient is one of the terrors of the accoucheur and at once awakens a fear of uterine sepsis with far-reaching evils and not unfrequently with early death. Remember that rigors sometimes occur about the time when the os uteri is becoming fully dilated without any elevation of temperature. A slight rigor may follow on a severe labour due to chill from the cessation of muscular activity or to rapid cooling by free perspiration. But puerperal fever is the evil to be dreaded within the first five days of delivery, generally on the third day, whether due to communicated infection, as of scarlet fever, erysipelas, or other toxic material. With a sudden rise of temperature there may be rigors. In the later stages, which are those of phlebitic septicæmia or pyæmia, there may be repeated rigors with elevations of temperature. Rigors may also accompany septic intoxication or sapræmia in cases of abortion or of decomposed retained placenta. You may also meet with rigors in cases of parametritis and perimetritis.

It remains for me to mention some other morbid states in which you may observe the occurrence of shivering fits. At the onset of an acute attack of gouty arthritis one may occur. In connexion with venous thrombosis in the limbs or elsewhere we may meet with one or more rigors. The onset of acute tuberculosis is sometimes attended by repeated paroxysms of rigors, fever, and sweats which may closely simulate aguish attacks. In tuberculous kidneys and calculous pyelitis the same may be witnessed as a result of septic infection. Occasionally rigors occur in profound anæmia, in Hodgkin's disease, and in rapidly growing cancer.

Thus we find a long list of morbid states in which we may meet with this symptom. We cannot, however, always determine the precise cause of rigors in disease. As a rule they have an untoward significance, but this is by no means always the case. In the course of fevers they not uncommonly depend on fresh infection by some other toxin than that proper to the original malady, a path being opened for their introduction either by the lowered nutrition of the patient or by some breach of surface laid bare by the primary disease. The severe rigors occurring late in the course of enteric fever are probably thus to be explained. We often suspect some purulent focus and fail to find it after the most careful search, even by probing for it in situations obviously involved. In many of such cases we have probably to do with some form of septicæmia as a variety of what is known as terminal infection.

The surgeon in these days has little to fear in respect of the occurrence of this symptom. With the practical abolition of pyæmia as a sequel of operations rigors are rarely met with and their onset would at once raise doubt as to some flaw in the complete asepticity of the method employed. None of you, or of those who will follow you here, will ever know the full meaning of the boon conferred by the use of aseptic methods. To appreciate this is left for us who witnessed the sad consequences of injuries and operations even under the most approved methods in the days of pre-aseptic surgery.

You will not have failed to note how frequently the occurrence of a rigor in a medical case at once determines the need for surgical interference and how prompt we are to avail ourselves of it. In the treatment of a patient suffering from a rigor you are to employ warm drinks such as hot tea with essence of ginger and apply extra blankets and hot bottles. Some ether and carbonate of ammonia may be given, or brandy and hot water. If the pinched and semi-collapsed condition lingers a tablet or two of trinitrin may be given sometimes with advantage. The exciting cause must, however, be diligently sought for and treated as fully as possible.

I will now lay before you very briefly the particulars of some cases illustrating the occurrence of rigors. Dr. E. C. Morland has kindly put these in abstract for me.

The first of Sir Dyce Duckworth's illustrative cases was that of a man, 33 years of age, who was admitted to St.

[1] The late Sir George Johnson believed that rigors resulted from anæmia of the spinal cord and were due to a spinal epilepsy akin to the cerebral anæmia associated with ordinary epilepsy. He regarded them as due either to toxæmia or to a purely reflex nervous influence (Medical Lectures and Essays, p. 254).

Bartholomew's Hospital with pneumonia on June 10th, 1899, and discharged well on July 1st. The history was that he was well until June 10th, when he began to shiver at 11.30 A.M. and then had a stitchy pain in his right side. At the time of admission he was in a rigor which lasted for two hours. His temperature rose to 105·4° F. at 11 P.M., when he was sponged. His face was flushed and anxious, his lips were parched, and his tongue was furred; there was no herpes. His pulse was 110 and his respirations were 35, with an expiratory grunt. Other symptoms included working of the alæ nasi, short hacking cough attended with pain in the right side, and viscid rusty sputum. Nothing was heard in the lungs but there was some soft friction in the fifth space in the axillary line. The temperature remained high till the 16th (the seventh day of the disease) and then fell by crisis. On the 13th there was dulness at the base of the right lung and on the 14th there were bronchial breathing and fine crepitation.

The second case was that of a man, aged 19 years, who was admitted on June 10th, 1899, with otitis media, the complications being subdural abscess and septicæmia. The history was that he was quite well till June 4th when he sweated profusely, shivered, and had severe headache. He had had a discharge from the right ear since infancy. The headache increased, he had more shivering fits and pain in the back. Herpes labialis appeared on June 9th. On admission he was quite conscious and rational; his head was drawn back and his neck was a little rigid. His temperature was 103·7° F., his pulse was 100, regular, of full volume, and dicrotic. There was a foul creamy discharge from his right ear; there was no mastoid tenderness. On the 12th there was a rigor lasting 10 minutes with a temperature of 104·8°. On the 13th Mr. Marsh explored the mastoid antrum, the lateral sinus, and the temporo-sphenoidal lobe on the right side, but no pus was found. On the 14th there were two more rigors and the temperature rose to 104·6°. On the 15th the left mastoid antrum was explored, but no pus was found. On the 17th he died; the rectum temperature rose to 108° after death. The post-mortem appearances were suppuration in the mastoid cells, subdural abscess on the right side, and old tubercle at the apices of both lungs.

Another case was that of a man, 44 years of age, admitted on August 21st, 1899, with malignant disease of the splenic flexure of the colon, complicated with perforation and localised peritonitis, and attended with rigors simulating ague. The history was that in February, 1899, the patient had a severe attack of pain in the left hypochondrium attended with vomiting and constipation, and had had seven similar attacks since that time. He was under treatment in St. Bartholomew's Hospital in June and July, 1899, for "intermittent fever, enlarged spleen." He had a rigor and his temperature was 103·6° F. on June 30th, but was afterwards subnormal; no plasmodia were found in the blood. When re-admitted on August 21st his abdomen was tender on palpation, especially in the epigastric and right hypochondriac regions. The pulse was 130 and the temperature was 100·6°. On August 24th he had a slight rigor and his temperature rose to 102·8°. On examination of the blood no plasmodia were seen, but there was considerable leucocytosis. On Sept. 1st a sausage-shaped resonant mass was felt in the right iliac fossa. Rigors recurred on Sept. 12th (temperature 105·0°), Sept. 13th (temperature 103·0°), Sept. 16th (temperature 104·4°), and Sept. 17th (temperature 104·0°). Weakness increased gradually and death took place on Sept. 26th. At the post-mortem examination a large, ragged, malignant ulcer was found occupying the splenic flexure of the colon which was perforated in several places. There were no secondary growths. The spleen was of natural size. The tumour in the left hypochondrium for a long time simulated an enlarged spleen and moved downwards with expiration. The rigors were evidently due to occasional leakages of purulent matter from the ulcerated mass in the bowel. In course of time the nature of the case became clear.

BLACKMAILING A MEDICAL MAN. — At the Glamorganshire Assizes held last week a man named Francis, connected with the Dowlais Ironworks, was sentenced to three months' imprisonment with hard labour for sending a letter to the surgeon of the works (Mr. W. J. Corrigan) demanding money with threats. Francis accused Mr. Corrigan of neglecting him, demanded money, and threatened to get him turned out of the appointment.

THE INFLUENCE ON HEALTH OF CHEMICAL PRESERVATIVES IN FOOD.

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THE influence on health of chemical preservatives added to food may conveniently be considered more especially in relation to milk. For these reasons: because milk is of all necessary food-stuffs the one which most readily undergoes decomposition, because milk is a food-stuff which, when it has undergone decomposition of one kind or another, is capable of producing extremely injurious effects, and, finally, because milk is the food-stuff in which any injurious effect of a preservative would be most mischievous, since it is consumed in large quantities by, and may be the only proper nourishment for, both young children and invalid adults. Milk, then, may be said to be the food to which the addition of a preservative, if that preservative is not injurious to health, would be most advantageous; and, on the other hand, it is the food in which a preservative, if injurious to health, is most to be avoided.

Boric acid and formic aldehyde are the only preservatives which at the present time are used to any great extent for milk, unless one includes sodium bicarbonate which is sometimes added to check souring. Salicylic acid, which was said at one time to be extensively used for milk, is now probably seldom met with. In any case it is a preservative the use of which should, in my opinion, be absolutely prohibited. Benzoic acid seems to have been occasionally used, but never extensively. It is an efficient preservative when used in the proportion of 17 grains to the gallon of milk and is a substance to which the more obvious objections, at any rate which forbid the use of salicylic acid, do not apply. Benzoic acid can be administered in large medicinal doses without causing any injurious effect. It is also believed to be a normal constituent of the animal body, being probably the source of the hippuric acid which is present in large quantities in the urine of herbivorous animals, and in smaller amounts (from 0·3 to 3·3 grammes per diem) in the urine of man. In the latter its amount is considerably increased after eating certain fruits, such as pears, plums, and cranberries. There is, therefore, a certain amount of reason for believing that its use in small quantities would not have any injurious effect. My attention has, however, been principally directed to the use of boric acid and borax and formic aldehyde. Boric acid is used either by itself or in the form of a boric mixture which contains about 75 parts of boric acid (H_3BO_3) and 25 parts of sodium bi-borate ($Na_2B_4O_7$), or as the principal constituent of various other "milk preservatives." Formic aldehyde (H.COH) has latterly come into very extensive use. It is found commercially as "formalin," which contains 40 parts per 100 of gaseous formic aldehyde, together with a minute trace of formic acid, dissolved in water containing a small quantity of methyl alcohol.

Having regard to various considerations I am of opinion that the amount of preservative, the same not being injurious to health, which might under ordinary circumstances be permitted in milk should be limited to such a quantity as will suffice to keep the milk sweet and fit for use as human food for a period of 24 hours in the hottest weather. For this purpose the following are about the quantities necessary: of boric acid or of boric mixture, 35 grains per gallon (1 part in 2000); and of formic aldehyde, 1 part in 50,000 (1 part of formalin in 20,000). Starting on this basis it remains to be considered what will be the effect, if any, of the boric acid or formic aldehyde added to the food in these quantities on the health of the consumer. Evidence bearing on this point may be arranged under two heads: (1) as to the direct action of the substance on the various digestive processes, and (2) as to its effect generally on the living tissues.

INFLUENCE OF THE ADDED PRESERVATIVE ON THE DIGESTIVE PROCESSES.

Under this head one has amongst other points to consider (1) whether the preservative has any influence on the secretion of the digestive enzymes; (2) whether it exercises any

direct injurious effect on the enzymes themselves; (3) whether it inhibits in any degree the action of the enzymes; and (4) whether it renders the food to which it has been added more or less digestible than unpreserved food.

With regard to the influence of boric acid and formic aldehyde on the secretion of the digestive enzymes there is, so far as I know, no evidence available at present. But on general grounds it may be suggested that boric acid present in the proportion of 1 part in 2000 would have, if it had any effect at all, a slightly stimulating action on the enzyme-secreting glands, whilst it seems improbable that so dilute a solution of formic aldehyde as 1 in 50,000 would have an action of any sort in this direction. The direct action of the preservative on the digestive enzymes may be studied by keeping the several enzymes in contact with the preservatives in various proportions and for varying lengths of time and then testing the activity of their digestive power as compared with samples not so treated. A fair estimate of the influence of the preservative with respect to points (3) and (4) may be formed on the results of a series of laboratory experiments with different food constituents in which digestion takes place both with and without a preservative in the digestive mixtures, and in which both fresh food and food which has previously been kept in contact with the preservative are used. In experiments with amylolytic enzymes either the length of time may be taken which elapses before a given quantity of starch has disappeared, as determined by the iodine test applied to small portions from time to time, or the amount of starch converted may, after titration of the mixture with Pavy's copper solution, be expressed in terms of the maltose produced. In experiments with proteolytic enzymes the undigested residue, if not already coagulated, is rendered insoluble, washed, dried, and weighed; the amount of proteid digested is then calculated by difference. Whilst this is the method usually adopted, that used by Mr. S. Rideal, D.Sc., in the experiments which will be referred to below probably gives more constant results. In this latter method the digestive mixture is filtered, the undigested and, if necessary, coagulated proteid is washed on the filter, and the amount of proteid digested is expressed in terms of the nitrogen dissolved in the filtrate and estimated by Kjeldahl's method.

The utility of such laboratory experiments as these has, of course, a limit. In a general way the results merely express the proportion of a given substance which is rendered soluble under certain conditions by the action of the enzyme; they give little information as to the nature of the products formed, whether normal or otherwise; but they probably represent the best that at present can be done in the matter, and it is doubtful whether experiments on the digestive processes in living animals would give any more useful results.

THE DIRECT ACTION OF THE PRESERVATIVE ON THE TISSUES OF THE BODY AND ON THE HEALTH GENERALLY OF THE CONSUMER.

The most direct evidence on this point is derived from the observation of the effects upon man of the preservative either when administered medicinally to invalids or when taken experimentally by healthy individuals. Fairly conclusive evidence in connexion with this aspect of the matter is available in the case of boric acid but not in the case of formic aldehyde. When such direct evidence is wanting one has to fall back on physiological methods in the hope of solving the question by testing the action of the substance on various tissues and on lower animals. The action of boric acid and formic aldehyde will now be discussed, so far as evidence is available, in each of the several relations suggested above.

A. Boric acid.—A number of very careful experiments as to the influence of boric acid and sodium borate on the activity of various digestive enzymes have been carried out by Professor Chittenden[1] of Yale University. His results are included in Table I., together with those published by Rideal and myself[2] and by Maybery and Goldsmith.[3] To facilitate comparison the figures giving the results of Chittenden and of Maybery and Goldsmith have been reduced to the same denominator as that used by Rideal and myself; and in this and subsequent tables the result of the control experiment with no preservative is expressed as 100 and the results of the corresponding experiments with preservatives as percentages. In Maybery and Goldsmith's series (B 5) in which three control experiments were carried out, the control giving the highest result is expressed as 100 and the other two as percentages of the first.

The results expressed in Table I. may be summarised as follows:—

1. *Influence of the preservative on the digestion of starch by natural saliva* (A. 1, 2, 3, 4).—When added in the proportion of 1 in 2000 boric acid slightly favours the amylolytic action, whilst boric mixture exerts a very marked inhibitory influence, which is still more pronounced in the case of borax alone. Boric acid when present in larger proportionate amount (up to 1 in 200) still favours the action of the enzyme; the inhibitory action of the boric mixture obviously depends on the amount of borax present in it.

2. *Influence of the preservative on the digestion of proteids by artificial gastric juice* (B. 1, 2, 3, 4, 5).—According to Chittenden's experiments boric acid present in the proportion of 1 in 2000 has a very slight inhibitory action on the digestion of dried blood fibrin (reducing the amount digested by 0·6 per cent.), but in the proportions of 1 in 1000 up to 1 in 200 it distinctly favours the digestion of either blood fibrin or moist coagulated egg albumin; borax also has a slight favouring action on the digestion of moist coagulated egg albumin when present in the proportion of 1 in 2000. Boric mixture in the proportion of 1 in 1000 has according to our own experiments a similar effect. Maybery and Goldsmith, however, found that boric acid in the proportion of 1 in 2000 had a very distinct inhibitory effect on the digestion of blood fibrin, but that the inhibitory effect became less pronounced as the proportion of boric acid was increased. The weight of evidence, so far as it goes, is against boric acid having as a rule this inhibitory effect, but Maybery and Goldsmith's duplicate experiments are interesting as suggesting the range of unavoidable error attaching to experiments of this sort.

3. *Influence of the preservative on digestion by pancreatic enzymes. a. Effect on proteolysis* (C. 1, 2, 3, 4, 5).—Borax in neutral or alkaline solution has a decidedly favourable influence on the proteolysis of cooked beef, whilst boric acid in the proportion of 1 in 2000 in a neutral solution has a distinctly inhibitory action, reducing the amount of proteid digested in a given time by about 6 per cent. Boric mixture in the proportion of 1 in 1000 reduced the amount of casein digested in milk by 1 per cent. *b. Effect on amylolysis* (C. 6, 7).—Two commercial pancreatic extracts were used, the action of which was in each case very injuriously affected by boric mixture present in the proportion of 1 in 2000. It will be noticed that the percentage reduction was much greater in the case of the more active ferment (C. 7). Thus the absolute amounts of sugar produced from a given quantity of starch were: C. 6. Extract No. 1: control, no preservative, 0·391 gramme; with boric mixture, 1 in 2000, 0·3025 gramme; C. 7. Extract No. 2: control, no preservative, 0·412 gramme; with boric mixture, 1 in 2000, 0·2647 gramme. This effect of the preservative is parallel to that obtained by Chittenden in his proteolytic experiments with borax (C. 3 and 4), in the latter of which a more active enzyme was used than in the former, and in which, the meat digested being weighed as dry proteid, the following were the absolute figures obtained: C. 3: control, no preservative, 1·9432 grammes; with borax, 1 in 2000, 2·1986 grammes; C. 4: control, no preservative, 2·7054 grammes; with borax, 1 in 2000, 2·7347 grammes. In this case the action of the more active ferment was less favoured than that of the less active one.

4. *Influence of boric mixture on amylolysis by a vegetable enzyme.*—It will be seen that the preservative in the proportion of 1 in 2000 had a very marked inhibitory influence on the amylolytic action of taka diastase, an enzyme derived from a mould fungus, Eurotium oryzæ.

INFLUENCE OF THE PRESERVATIVE ON THE DIGESTIBILITY OF THE FOOD TO WHICH IT HAS BEEN ADDED.

It is obvious that the preceding experiments do not necessarily express the whole truth as to the effect of a preservative on the digestion of the particular foodstuffs used and that a further effect might be caused by the prolonged action of the boric acid on the food itself before it is actually eaten. The following experiments published by Rideal and myself were carried out with a view of investigating this aspect of the question. Table II. gives the results obtained.

By comparing the results of these experiments with the

[1] Dietetic and Hygienic Gazette, February, 1893.
[2] Public Health, 1899, vol. xi., No. 3.
[3] Journal of the American Chemical Society, 1897, vol. xix., p. 889.

TABLE I.—INFLUENCE OF BORIC ACID, BORAX, AND BORIC MIXTURE ON ARTIFICIAL DIGESTION.

—	No.	Authority.	Nature of experiment, &c.	Preservative used.	Control; no preservative.	Proportion of preservative present in mixture.											
						1 in 20,000	1 in 10,000	1 in 2000	1 in 1000	1 in 500	1 in 400	1 in 333	1 in 200	1 in 100	1 in 50	1 in 40	1 in 20
A. Salivary digestion.	1	Chittenden.	1 gramme arrowroot starch, 5 c.c. saliva, in 100 c.c. water; digested at 40° C. for 50 minutes; maltose estimated.	Boric acid.	100	—	—	**100·92**	101·1	—	—	—	101·48	90·57	—	—	—
	2	,,	1 gramme arrowroot starch, 5 c.c. saliva, in 100 c.c. water; digested at 40° C. for 50 minutes; maltose estimated.	Borax.	100	97·91	93·11	**58·37**	54·91	45·61	—	—	—	40·54	—	33·3	25·81
	3	,,	1 gramme potato starch, 5 c.c. saliva, in 100 c.c. water; digested at 40° C. for 50 minutes; maltose estimated.	,,	100	—	93·69	**70·22**	—	—	59·43	—	57·61	53·4	—	41·7	32·2
	4	Rideal and Foulerton.	1 gramme arrowroot starch, 5 c.c. saliva, in 100 c.c. water; digested at 38° C. for 30 minutes; maltose estimated.	Boric mixture.	100	—	—	**88·3**	87·8	—	—	86	—	—	—	—	—
B. Gastric digestion.	1	Chittenden.	9 grammes moist coagulated egg-albumin, pepsin in 100 c.c. of 0·2 per cent. solution of HCl; digested at 40° C. for four hours; undigested residue weighed.	Boric acid.	100	—	—	—	**101·76**	—	—	112·43	110·92	112·84	—	100·54	62·97
	2	,,	1 gramme dried blood fibrin, pepsin in 50 c.c. of 0·2 per cent. HCl; digested at 40° C. for six hours; undigested residue weighed.	,,	100	—	—	**99·4**	106·35	—	—	—	104·97	96·4	—	—	78·45
	3	,,	9 grammes moist coagulated egg-albumin, pepsin in 100 c.c. of 0·2 per cent. HCl; digested at 40° C. for four hours; undigested residue weighed.	Borax.	100	—	100·13	**102·16**	—	98·08	—	—	78·0	—	—	—	—
	4	Rideal and Foulerton.	15 grammes moist pressed beefsteak, pepsin in 100 c.c. of 0·25 per cent. HCl; digested at 38° C. for one hour; filtered; dissolved N estimated.	Boric mixture.	100	—	—	—	**108·33**	—	—	—	—	—	—	—	—
	5	Maybery and Goldsmith.	1 gramme blood fibrin, pepsin in dilute HCl solution; digested at from 38° to 40° C.; residue weighed; three control experiments, others in duplicate.	Boric acid.	100	—	—	—	—	—	—	—	—	—	—	—	—
					98·62	—	—	**94·28**	97·03	—	—	97·71	—	—	—	—	—
					97·58	—	—	**93·9**	95·94	—	—	95·27	—	—	—	—	—
C. Pancreatic digestion, 1 to 5, proteolytic; 6 and 7, amyloiytic.	1	Chittenden.	10 grammes moist cooked beef, trypsin in neutral solution 50 c.c.; digested at 40° C. for seven hours; undissolved residue weighed.	Boric acid.	100	—	97·68	**93·05**	91·5	94·2	—	—	93·82	93·82	76·44	—	—
	2	,,	10 grammes moist cooked beef, trypsin in neutral solution 50 c.c.; digested at 40° C. for five hours; residue weighed.	Borax.	100	—	120·67	**122·06**	—	143·29	—	—	158·93	159·74	—	—	156·7
	3	,,	10 grammes moist cooked beef, trypsin in alkaline solution 50 c.c.; digested at 40° C. for five hours; residue weighed.	,,	100*	—	111·47	**113·04**	—	117·21	—	—	120·34	110·08	112·17	—	92·0
	4	,,	10 grammes moist cooked beef, trypsin in alkaline solution 50 c.c.; more energetic enzyme than used in last experiment; digested and weighed as before.	,,	100*	—	101·05	**101·05**	—	—	—	—	104·08	—	—	—	—
	5	Rideal and Foulerton.	50 c.c. fresh milk, with commercial extract of pancreas (No. 1); digested at 38° C. for 30 minutes; undigested casein ppd.; filtered; dissolved N estimated.	Borax mixture.	100	—	—	—	**99·0**	—	—	—	—	—	—	—	—
	6	,,	1 gramme arrowroot starch in 100 c.c. of water, commercial extract of pancreas (No. 1); digested at 38° C. for 30 minutes; maltose estimated.	Borax mixture.	100†	—	—	**77·2**	63·0	—	—	50·8	—	—	—	—	—
	7	,,	1 gramme arrowroot starch in 100 c.c. of water, commercial extract of pancreas (No. 2); digested at 38° C. for 30 minutes; maltose estimated.	Borax mixture.	100†	—	—	**64·0**	53·6	—	—	47·0	—	—	—	—	—
D.	1	Rideal and Foulerton.	1 gramme arrowroot starch in 100 c.c. of water, 0·5 c.c. of liquid "taka diastase"; digested at 38° C. for 30 minutes; maltose estimated.	Borax mixture.	100†	—	—	**33·0**	27·0	—	—	20·0	—	—	—	—	—

* Absolute amount of proteid digested; control experiment C. 3, 57·5 per cent.; control experiment C. 4, 75·8 per cent.

† Absolute amount of maltose formed; control experiment C. 6, 0·391 gramme; control experiment C. 7, 0·412 gramme; control experiment D. 1, 0·241 gramme.

parallel ones, B. 4 and C. 5, in Table I., in which the preservative was added at the same moment as the enzyme, some idea may be formed as to the effect of the preservative on the food itself. Beef which had been in contact with the boric mixture for 24 hours became considerably less digestible than beef to which the preservative was added at the moment of digestion, but at the same time even after treatment with boric mixture for 24 hours the amount digested was only about 3 per cent. less than in the control experiment in which no preservative was used. Thus: control, no preservative, 100; preservative added with enzyme, 108·33 (1 in 1000); preservative added 24 hours before digestion, 97·22 (1 in 2000), 90·17 (1 in 1000). In the case of milk the prolonged action of the boric mixture did not affect the digestibility of the casein to any appreciable extent. Control, no preservative, 100; preservative added with enzyme, 99 (1 in 1000); preservative added 20 hours before digestion 99·4 (1 in 2000), 97·3 (1 in 1000). So far, then, as the digestion of proteids is concerned the influence of the boric mixture cannot be considered as serious so long as the proportions of preservative present does not exceed 1 in 2000. An inhibitory action on amylolysis is, however, very marked, and this will be referred to again.

THE DIRECT ACTION OF BORIC ACID AND BORAX ON THE TISSUES AND ON THE HEALTH GENERALLY OF THE CONSUMER.

Both boric acid and borax have been extensively used in medicine and there is, in my opinion, sufficient evidence available as to the action of these substances on general health to render unnecessary any consideration in detail of their direct action on the tissues. The well-known experiments of Chittenden and Gies,[4] of which the following is a summary, are, however, of such importance that they must be referred to. Experiments were carried out on three dogs, which were first brought by dieting into a condition of nitrogenous metabolic equilibrium—that is to say, into such a condition that the nitrogen excreted in the urine and fæces was about equivalent to the nitrogen taken with the food.

In the first experiment a dog weighing 12 kilogrammes was put on a diet of constant quantity as regards solids and water for 27 days. The total nitrogen in the urine and fæces was estimated daily for the first nine days. During the next nine days five grammes of borax were administered daily, an amount equal to 1·3 per cent. by weight of the solid food or 0·6 of the total solid and liquid food and the excretal nitrogen estimated as before. At the end of nine days the preservative was discontinued and the excretal nitrogen estimated for a further period of nine days. The body-weight was slightly higher at the termination of the experiment than at the beginning of it. The urine, previously acid, became alkaline on the second day of the borax administration and remained so until the preservative was discontinued. During the period of administration the specific gravity of the urine was slightly increased and the quantity was at the same time slightly diminished. The amount of excretal nitrogen in the urine and fæces was distinctly increased during the preservative period.

In the second experiment a dog weighing 7·9 kilogrammes was similarly dieted for ten days, then boric acid was added to its food in the following quantities per diem—one gramme for a period of four days, 1·5 grammes for the next three days, and two grammes for the next three days. The excretal nitrogen was estimated for another period of ten days after the discontinuance of the preservative. The addition of the boric acid was accompanied by a definite but not excessive increase in the amount of excretal nitrogen and a slight increase in the specific gravity of the urine without any alteration in its quantity; the body-weight remained practically constant throughout. The reaction of the urine in the case of this dog varied from day to day before the preservative was used; during administration the urine was acid on nine days and alkaline on one; after the preservative was discontinued the reaction of the urine varied as before.

The third experiment covered a period of 56 days. A bitch weighing 10 kilogrammes was brought into a state of nitrogenous equilibrium and the excretal nitrogen estimated as before. For the first eight days the food was given without any preservative and during the next eight days borax was administered in the following quantities—two grammes on the first day, then three grammes and four grammes on the second and third days, four grammes on each of the next two days, 4·5 grammes on the next day, and five grammes on each of the last three days. The preservative was then discontinued for eight days, after which boric acid was administered, one gramme on each of the first two days, then 1·5 grammes, then two grammes, then 2·5 grammes, and finally three grammes on each of the last three days. Then the food was given without any preservative for eight days. During the following eight days borax was again administered—10 grammes on each of the first two days, then five grammes, then six grammes, then seven grammes, then 10 grammes, and eight grammes on each of the last two. During the final eight days of the experiment no preservative was given. The results of the 56 days' experiment may be summarised as follows. During the administration of boric acid the amount of excretal nitrogen was diminished as compared with the four periods of normal feeding; during both the periods of administration of borax there was an increase in the amount of nitrogen excreted, which was very marked during the second period when large doses were given. During each period in which a preservative was given the amount of urine fell somewhat; during the boric period the specific gravity was practically unaffected, whilst during both the borax periods it was considerably increased from a normal varying between 1·012 and 1·016 to between 1·015 to 1·022 during the first borax period and between 1·020 and 1·029 during the second borax period. The animal showed a tendency to increase in weight during the course of the experiment. The results summarised above are what appear to me to express the data of the analytical tables given by Chittenden and Gies. The writers themselves conclude that their experiments show that borax in doses of from two to five grammes a day had no effect on the digestion of fatty or proteid material and that boric acid in doses up to three grammes a day was similarly without effect. It will be observed that in these experiments the doses of preservative given were far in excess, both proportionately to the body-weight of the animal and to the amount of food taken, of the quantity which would be taken by a human being in milk with the limit of 1 in 2000. The experiments do not throw any light on the possible effect of the preservative on the digestion of the starchy constituents of the diet.

There now remains to be considered the known effect, as shown by the result of medical experience, of boric acid and borax when taken internally by man. In the first place, one must ascertain what amount of the preservative would be taken daily by an individual consuming milk containing boric acid or borax in the proportion of 35 grains to the gallon. The average healthy adult, we may assume, will not take more than half a pint of milk in his daily diet; an invalid adult on milk diet will consume from three to eight pints; and a child aged six months brought up on cow's milk would have about one and a half pints per diem. Supposing the milk contained boric acid in the proportion stated, then the average healthy male adult (weighing 160 lb.) would take 2·19 grains of boric acid (about 0·0019 gramme per kilogramme body-weight); the invalid male adult (weighing 140 lb.) would take from 13 grains to 35 grains of boric acid (about from 0·0133 gramme to 0·035 gramme per kilogramme body-weight), and the child (weighing 12·4 lb.) would take 6·57 grains of boric acid (about 0·075 gramme per kilogramme body-weight). The amount, as above, taken daily by the average healthy adult must be regarded as absolutely negligible, for it is in the highest degree improbable that such an amount would have effect of any sort on the general health. The boric acid (assuming, of course, that no other similarly preserved article of food were taken) would in the stomach be diluted to such a degree that it could not possibly exert any injurious effect on the digestive processes. But with regard to the invalid adult or the bottle-fed child who are subsisting entirely, or almost so, on preserved milk the matter has quite a different aspect because of the relatively large amounts of boric acid which would be taken.

The medicinal doses of boric acid and borax are practically the same, and it is, I believe, generally assumed that the therapeutic action of the two drugs is very similar. The experiments of Chittenden and Gies on dogs would, however, show that in largish doses borax has a distinctly more disturbing effect on metabolism than has boric acid. The pharmacopœial dose of boric acid for an adult is from five to 15 grains and of sodium biborate from five to 20 grains. The dose for a child six months old calculated on the maximum dose for an adult would be 0·75 grain. These

[4] New York Medical Journal, February, 1898.

TABLE II.—INFLUENCE OF BORIC MIXTURE ON THE DIGESTIBILITY OF FOOD TO WHICH IT HAS BEEN ADDED.

No.	Details of experiment.	Control; no preservative.	Proportion of preservative present in mixture.		
			1 in 2000.	1 in 1000.	1 in 333.
1	15 grammes of pressed beef steak, allowed to stand for 24 hours in 100 c.c. water with boric mixture; then digested with pepsin for one hour at 38° C.; dissolved nitrogen estimated in filtrate.	100	97·22	90·17	73·93
2	50 c.c. of fresh milk allowed to stand with boric mixture for 20 hours, then digested with commercial extract of pancreas (No. 1) for half an hour at 38° C.; undigested casein precipitated, and dissolved nitrogen estimated in filtrate.	100	99·4	97·3	97·7

TABLE III.—ABSTRACTS OF TOXIC CASES WITH BORIC ACID.

Reference.	Dose.	Nature of case.	Symptoms produced.
Hall: THE LANCET, Jan. 28th, 1899, p. 261.	30 grains (2 grammes) boric acid per diem.	An old man with urethral stricture and cystitis.	On the tenth day after commencing the boric acid an irritable "papulo-erythematous" rash appeared on the face, trunk, arms, and legs. On discontinuing the boric acid the rash rapidly disappeared. On resuming the boric acid the rash reappeared in two days. On again leaving off the boric acid the rash disappeared. Urine contained boric acid for some days after the drug was left off. No albuminuria.
Ibid.	15 grains (1 gramme) boric acid per diem, also bladder washed out daily with boric lotion.	A "middle-aged" man with enlarged prostate.	After about 14 days a very irritable papular rash appeared on the arms, legs, and trunk. The boric acid was then left off and the rash quickly improved. On resuming the drug the rash reappeared and faded away when the boric acid was again discontinued. No albuminuria.
Evans: Brit. Med. Jour., Jan. 28th, 1899, p. 209.	30 grains boric acid increased to 60 grains (from 2 to 4 grammes) per diem.	A man with cystitis.	After three weeks an erythematous rash appeared and spread over the neck, face, and head. This was followed by some subcutaneous œdema and a fine scaly dermatitis. The salivary glands became enlarged and the hair on the face and head fell out, so that in a fortnight the patient became perfectly bald.
Grumpelt: Brit. Med. Jour., June 7th, 1899, p. 17.	Irrigation of rectum three times daily with boric acid lotion (a teaspoonful to a pint of warm water).	A woman with old-standing inflammation of the bowel.	After three or four injections the patient began to complain of headache, slight nausea, and intense dryness of the skin. On discontinuing the injections the symptoms disappeared. When irrigation was resumed the symptoms reappeared. When the strength of the lotion was reduced by one-half and used only once a day the symptoms ceased altogether.

TABLE IV.—INFLUENCE OF FORMIC ALDEHYDE ON ARTIFICIAL DIGESTION.

—	Nature of experiment, &c.	Control; no preservative.	Proportion of preservative present in mixture.		
			1 in 100,000.	1 in 50,000.	1 in 10,000.
Salivary digestion.	1 gramme arrowroot starch, 5 c.c. saliva, in 100 c.c. water; digested at 38° C. for 30 minutes; maltose estimated.	100	99·8	96·0	89·0
Gastric digestion.	15 grammes moist pressed beefsteak, pepsin in 100 c.c. of 0·25 per cent. HCl; digested at 38° C. for one hour; filtered; dissolved N estimated.	100	—	97·63	—
Pancreatic digestion: (*a*) proteolytic; (*b*) amylolytic.	50 c.c. fresh milk, with commercial extract of pancreas (No. 1); digested at 38° C. for 30 minutes; undigested casein precipitated, mixture filtered, nitrogen estimated in filtrate.	100	—	97·9	—
	1 gramme arrowroot starch, 0·2 gramme extract of pancreas, digested at 38° C. for 30 minutes; maltose estimated.				
	(1) Commercial extract, No. 1.	100*	95·4	91·8	91·5
	(2) Commercial extract, No. 2.	100*	87·0	84·0	83·0
Digestion with vegetable enzyme.	1 gramme arrowroot starch in 100 c.c. of water; 0·5 c.c. of liquid "taka diastase"; digested at 38° C. for 30 minutes; maltose estimated.	100*	95·0	91·5	82·0

* Absolute amount of maltose formed in control experiments: with pancreatic extract No. 1, 0·391 gramme; with pancreatic extract No. 2, 0·412 gramme; with taka diastase, 0·241 gramme.

medicinal doses have habitually been largely exceeded without producing any evil effect in the majority of cases. Thus, in many cases the biborate of soda has been given for the treatment of epilepsy in quantities of from 60 grains to 100 grains (from four grammes to six grammes) every day for prolonged periods without producing any obviously injurious effect. But in other cases such doses have produced toxic symptoms. These symptoms include nausea, vomiting, and diarrhœa, cutaneous eruptions resembling psoriasis, papular eczema, and petechial cutaneous hæmorrhages, albuminuria, and in cases where renal disease was already present the rapid onset of uræmia. Boric acid has been less frequently used internally than the soda salt, but unfavourable symptoms appear to have occurred with its use as an external application under conditions in which the amount of the drug absorbed must have been quite small. The doses of borax quoted above exceed considerably the quantity which would be taken by an individual fed on milk containing 1 part of borax in 2000. But the following published cases (Table III.) show that the amount taken as a preservative would with some patients have a decidedly injurious effect. The cases quoted have, it may be added, all been published within the last twelve months. These cases (and others if necessary might be quoted) clearly show that doses of boric acid about equivalent to the amount which an invalid adult on milk diet might take if the preservative were present in the proportion of 1 part per 2000 are capable of producing serious toxic symptoms. And it must be assumed that the proportionately greater amount taken by the infant in preserved milk might be no less injurious.

B. Formic aldehyde.—The action of formic aldehyde will now be discussed, the same lines being followed as in the case of boric acid. With regard to the proportion of preservative used in the experiments quoted below it may be pointed out that nearly all were carried out with the commercial preparation known as "formalin," which it is assumed contains just 40 parts per 100 of gaseous formic aldehyde. For all practical purposes this assumption is probably justifiable and for convenience results have been expressed in terms of formic aldehyde,

although actually obtained with formalin. Further, whilst I have suggested 1 part in 50,000 as being about the proportion of formic aldehyde, which if not objectionable on the score of injury to health might be permitted in milk, I have in carrying out my own experiments adopted in many cases a standard of 1 part in 40,000. And I have done this because it is obvious that in preserving milk slight errors of measuring might, with the best intentions on the part of the vendor, occasionally occur. And having in view the nature of the inquiry it is as well to allow for such unintentional errors when considering the effect of the preservative on health.

1. *The influence of formic aldehyde on the activity of the digestive processes.*—The action of formic aldehyde in this direction has received less attention than that of boric acid. The results published by Rideal and myself (Table IV.) may be referred to and also some experiments carried out by Bliss and Novy,[5] and by Maybery and Goldsmith.[6] I have also carried out a further series of experiments myself. And it will be seen that the results of all the experiments are in general accordance with each other. The results of the experiments by Rideal and myself will be first considered.

The figures given in the table may be taken as showing that the presence of formic aldehyde, in the proportion of 1 part in 50,000 has a certain amount of retarding or inhibitory influence on the activity of digestion with the various enzymes tested. Proteolysis is retarded to the extent of rather less than 4 per cent., as expressed by the amount of beef digested by the gastric enzyme or of casein digested by the pancreatic enzyme in the presence of formic aldehyde when compared with the amounts digested by the same enzymes under similar conditions but without the preservative. The action of saliva on starch is retarded to about the same extent, whilst there is a much more considerable interference with amylolysis by the pancreatic enzyme. In connexion with the action of formic aldehyde on pancreatic amylolysis it will be noticed that, as with boric mixture, the accompanying retardation was much more marked in the case of the more active enzyme (No. 2) than it was in the case of the weaker one (No. 1). The experiments of Bliss and Novy were concerned with formic aldehyde in much greater strength than milk preserved as suggested would contain. In their experiments the proportion of formic aldehyde to the volume of the digestive mixture varied between 1 in 100 and 1 in 2500, and bearing in mind this larger amount of preservative present the results of these writers correspond fairly well with those obtained by Rideal and myself. The experiments carried out by Maybery and Goldsmith were made under similar conditions as regards strength of preservative to those of Bliss and Novy, but the results obtained seem to show a more distinctly marked inhibitory action. In the experiments of Maybery and Goldsmith one gramme of dried blood fibrin was digested with pepsin at a temperature of from 38° to 40° C. with various proportions of formic aldehyde; three control experiments were carried out under similar conditions, except that the preservative was omitted. The results obtained are expressed in Table V., in accordance with the system followed in the previous tables, and as duplicate experiments were recorded the range of variation incidental to such chemical operations as these is again seen.

TABLE V.—INFLUENCE OF FORMIC ALDEHYDE ON DIGESTION OF FIBRIN.
(Abstracted from Maybery and Goldsmith's Paper.)

Control; no preservative.	Proportion of preservative present in mixture.		
	1 in 2000.	1 in 1000.	1 in 333.
(1) 100·0	(1) 97·37	(1) 93·93	(1) 90·95
(2) 98·62	(2) 95·62	(2) 92·37	(2) 83·26
(3) 97·58	—	—	—

I have carried out several series of experiments to test the influence of formic aldehyde on the digestion of starch by natural saliva. The experiments were carried out as follows. To flasks containing 45 cubic centimetres of potato starch solution the several amounts of formic aldehyde were added in sufficient water to bring the contents of each flask up to 50 cubic centimetres. Saliva was then added and the flasks were kept at a temperature of 37° C. Small portions of the mixture were removed from the flasks from time to time, and the tint obtained on adding a measured quantity of iodine solution was compared with the tint produced by the same reagent in a control mixture. For my present purpose it will be necessary to quote only the results obtained in two series of such experiments.

Series I.—Formic aldehyde in the proportion of 1 in 40,000, 1 in 20,000, 1 in 5000, and 1 in 1000 was added to flasks containing a 0·1 per cent. solution of starch, and five cubic centimetres of saliva were then added. In this set of experiments it was found that all trace of starch had disappeared within 10 minutes.

Series II.—In this series of experiments similar proportions of formic aldehyde were present in flasks containing a 2 per cent. starch solution, and three cubic centimetres of saliva were added to each flask. The results obtained on adding the iodine solution were as follows.

TABLE VI.—INFLUENCE OF FORMIC ALDEHYDE ON SALIVARY DIGESTION.

—	Iodine test applied at end of		
	10 minutes.	20 minutes.	30 minutes.
Control flask; no preservative.	Very faint tinge (A).	—	—
Flask with 1 in 40,000 H.COH	Distinct blue tinge.	As control (A).	—
1 „ 20,000 „	Distinct blue tinge.	Distinct blue tinge.	As control (A).
1 „ 10,000 „	Distinct blue tinge.	Distinct blue tinge.	„
1 „ 5,000 „	Distinct blue tinge.	Distinct blue tinge.	„
1 „ 1,000 „	Distinct blue tinge.	Distinct blue tinge.	„

In other series of similar experiments in which the strength of the starch solution and the amount of saliva added were varied the results were always similar; the preservative showed a retarding but not an inhibitory action, and after a longer or shorter interval the contents of the flasks containing the preservative finally reacted with iodine solution just as the control flask had done earlier in the experiment.

I have also carried out a series of experiments to determine the influence of formic aldehyde on the action of the milk-curdling enzyme of rennet. As, however, these experiments will have to be quoted later as controls to another series they need not be further alluded to now, except that it may be said that they appeared to justify the conclusion that formic aldehyde added to milk in the proportion of 1 in 40,000 at the same time as the rennet does not exert any definite retarding influence on coagulation.

(To be continued.)

[5] Journal of Experimental Medicine, 1899, vol. iv., No. 1. [6] Loc. cit.

RED COLOURATION OF THE FÆCES SIMULATING THE PRESENCE OF BLOOD.

BY ALFRED H. CARTER, M.D., F.R.C.P. LOND.,
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AND
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Remarks by Dr. CARTER.—The important clinical significance which attaches to blood in the fæcal discharges renders it necessary to be very precise with regard to the signs of its presence. It is scarcely possible to overlook the presence of unaltered blood even in very small amounts; and only reasonable care is required to distinguish altered blood from the darkened stools of those who are taking bismuth, charcoal, or eating large quantities of meat, but, so far as I am aware, red pigmentation of the stools of a kind liable to be mistaken for blood has not received notice. I have happened within the last few months to meet with

three cases in which the last-mentioned appearance has been observed.

The first was a case of an old gentleman, whom I saw in consultation with Mr. Hammond Smith, late of Stourbridge, suffering from chronic valvular disease and febrile toxæmia in connexion with cystitis. His motions were fluid, offensive, and of a golden-brown colour. They were passed involuntarily at times and it was noticed that the cotton-wool placed between his legs for the purpose of cleanliness was often freely stained a bright-red colour. Streaks of a similar hue were also observed in the motion in bulk. Although it was provisionally regarded as due to the escape of blood from the bowel, it was remarked that it had not exactly the tint usually observed, and, further, the colour seemed to be intensified in those stools and soiled pads which had been set aside for inspection. I was so impressed with these facts that I felt sure that the colour could not be due to blood, but to some other cause. I therefore sent pieces of the soiled wool to Dr. MacMunn of Wolverhampton for further examination.

On another occasion, a few weeks later, I was seeing a case of typhoid fever with Mr. M. Hallwright of Edgbaston, in which exactly a similar condition was observed; and, being a disease in which there is a liability to hæmorrhage from the bowel, it was especially apt to be mistaken for blood. In fact, it was so regarded in the first instance by those in attendance upon the case.

I observed the condition for a third time in a case of acute pneumonia under my care in the Queen's Hospital, Birmingham. The general symptoms and course of the disease presented nothing unusual and the man ultimately recovered. But the bowels were relaxed, while the motions were of the consistence of thick soup and of the same golden-brown colour (when first passed) as in the two other cases which I have mentioned. In the samples set aside for inspection it was observed that the exposed surface was red, and on being moved from side to side in the bed-pan the redness took the form of streaks which were regarded as due to blood and looked uncommonly like it. On closer examination, however, it was clear that the red streaks were merely caused by breaking up of a red layer on the free surface of the stool, standing out in striking contrast against the golden-brown colour of the deeper strata. This was further proved by isolating some of the latter—as yet unaltered—and exposing it to the air for a short time in a clean vessel, when the same reddening of the surface was developed, breaking up into red streaks upon agitation. By further exposure and repeated agitation the whole mass of the stool became of a blood-red colour. A sample of the fæces was forwarded to Dr. MacMunn for examination.

Report by Dr. MACMUNN.—The specimen received on June 15th, 1899, was a piece of cotton-wool stained a brownish-red colour which looked like dried blood-stain. On digesting with distilled water and filtering, an orange-coloured solution was obtained, which on spectroscopic examination showed no evidence of blood, but, on the contrary, an absorption band from λ (wave length) 524 ($\mu\mu$) to λ 471. On diluting still more this band became narrower, as in the specimen next to be described. On treating with zinc chloride and ammonia I did not get the fine green fluorescence which is obtained with stercobilin. On treating with a mineral acid such as sulphuric the above band was broadened and on standing was moved slightly towards the violet end of the spectrum, so that the edge of the band next the red end read λ 516 instead of λ 524. On treating an aqueous neutral solution with caustic soda the colour became less orange and on diluting a band was seen from λ 520 to λ 502. On acidifying again the bands became darker, reading now from λ 504 to λ 480. Thus, upon the whole this pigment closely resembled stercobilin. By other methods I proved the absence of bilirubin, biliverdin, and of any blood-pigment.

In the second specimen, received on August 15th, the fæcal matter was semi-fluid and of a bright red colour. The colouring matter went over easily into distilled water, which after filtering had a bright blood colour. The paper through which the solution had been filtered had a fine pink colour. I could not find a trace of blood in this specimen or of unchanged bile-pigment. On examining a deep layer of fluid with the spectroscope some of the red and green, from about λ 690 to λ 550, came through. On diluting with more water a band from λ 490 to λ 530 was observed. On diluting further the solution had a pale rose tint. This aqueous solution had a slightly alkaline reaction. If a mineral acid is added the solution becomes a dull red; and in a suitable depth the original band has become replaced by two—first, about λ 515 to λ 540; and second, about λ 480 to λ 500, the latter being darker than the former. This shows that true stercobilin, as such, is absent. On adding caustic potash to an aqueous solution the colour changes to yellow; and in a deep layer the spectrum is strongly absorbed at λ 535. On diluting this solution a faint shading is seen from λ 490 to λ 515, the violet end of the spectrum being somewhat absorbed. When zinc chloride and ammonia are added to an aqueous solution only a feeble green fluorescence, if any, could be seen. The darker part of the band after this treatment read from λ 490 to λ 520. So it was practically unchanged and thus again the behaviour was different from that of stercobilin as it normally appears.

I regret that I had not more material to work upon, but from the foregoing reactions the following conclusions are justified: 1. That no blood in any form was present. 2. That no bilirubin or biliverdin was present. 3. That the pigment colouring the fæces red was closely related to stercobilin (the normal pigment), though differing from it in some slight particulars. (I believe the difference is due to the incompletely metabolised condition in which it was excreted.) 4. That the fæces at first contained the chromogen of the pigment, which on exposure to the air became converted into the corresponding pigment.

ACUTE DIABETES MELLITUS SUPERVENING IN A CASE OF DIABETES INSIPIDUS; COMA; DEATH.

BY EDWARD JOSEPH BLACKETT, M.R.C.S. ENG., L.R.C.P. LOND.

THE pathology of diabetes, from the time that Thomas Willis, physician to Charles II., first made mention of the disease, down to the present day, has been, and still is, a debatable point, though naturally great advances have been made; still the subject cannot be said to have been definitely settled. The following extract from an old book[1] published in 1703 may lay some claim to interest, both on account of its antiquity and also for the fact that it gives the views held in those days:—"If the urine hath no brackish, but a sweetish taste, like Water dulcify'd with Honey, 'tis acknowledg'd an undoubted Sign of a Diabetes, a Disease, wherein immediately after one hath drank, the urine is presently passed in great plenty, by the dissolution of the retentive Faculty of the Reins, and the depravation or immoderation of the attractive Faculty, proceeding ordinarily from a too much exalted, or too acid Ferment of the Reins, and from an Inflammation of the Liver and other Parts, but especially of the Kidneys and Bladder. The Loins in this Disease are molested with a pricking and biting Pain, and there is a continual and unquenchable Thirst. And altho' this Disease proceeds from a hot Distemper, yet the Urine is not colour'd Red, Troubled, or Thick, but Thin and like water, by reason the matter thereof makes very small stay in the Stomach, Liver, and Vena Cava, being presently drawn away by the heat of the Kidneys or Bladder." Thus it will be seen that diabetes in those days was looked upon as a local affection of the kidneys and bladder principally. In Dr. Cullen's Lectures on the "Practice of Medicine," written about 80 years later, he says that in diabetes there is clearly no local affection of the kidneys, but the disease is due to a fault in the assimilation of the fluids taken into the system. The theories held as to the causes of glycosuria at the present day are both many and various. Each theory has its supporters, and as to which is the correct one it would be presumptuous for me to say, but I think it may be safely asserted that a disease exhibiting, as diabetes does, such constant and well-marked clinical features can only arise from one common origin. I have no wish to appear to be dogmatising from one case, for I fully realise the fact that, inasmuch as one swallow does not make a summer, so neither does one case establish a dogma. Still, the nervous element in this particular instance is so

[1] A Compleat Treatise of Urines. By T. H. Pharmacop. Rustican.

marked that it cannot altogther be disregarded and I am sending these notes in the hope that perhaps some other members of the profession may have had similar cases and that by the multiplication of cases some clue may be given to the pathology of this disease. For many of the notes of this case I am indebted to the kindness of Dr. James Wilding of Bristol who had the patient under his care, both previously to the time I first saw him and afterwards, in fact he was in attendance at the time of his death. I must also acknowledge my indebtedness to Dr. Whipham who kindly saw the patient in consultation last January and allowed me the use of his notes. The following are the notes of the case.

The patient was a gentleman, aged 54 years. His father died at the age of 78 years and his mother is still alive, aged 95 years. Four brothers are living and in good health; one sister is living, one was burned to death, and one died from cancer at the age of 60 years. The patient had suffered from the usual ailments that childhood is heir to. He had had influenza every year since 1891, the first attack being a very severe one. He was a man full of energy and enjoyed, as a rule, excellent health. In 1897 he was overworked in arranging a bazaar. In May, 1898, he incurred a very severe shock, a friend, with whom he was in conversation in his room, suddenly, whilst talking, dropped dead at his feet. In September, 1898, he was present at a fire which occurred between 2 A.M. and 5 A.M. and worked very hard in his endeavours to rescue lives and save property. Almost immediately afterwards he was attacked with great thirst, debility, and polyuria. The thirst persisted till February, 1899. The amount of urine passed averaged from seven to eight pints a day and on more than one occasion exceeded 10 pints. It was frequently examined and no trace of sugar or albumin could be detected. Its specific gravity was always low, ranging between 1006 and 1010. In December, 1898, he was seen in consultation at Bristol by Dr. J. Michell Clarke who considered the case to be one of undoubted diabetes insipidus. I will summarise the treatment employed at the end of these notes. In January, 1899, he came to London for rest and further advice. On the 30th Dr. Whipham saw him for the first time. The patient's mouth at the consultation was dry and parched and he was passing a large amount of urine daily. Since the fire in September, 1898, his bowels had been constipated; previously they were regular in their action. He slept well before the fire and would have done so after it had it not been for the intense thirst from which he suffered. He was a man of short stature, bright-looking and robust, his appearance not in any way indicating that he was afflicted with disease. He used to drink a pint of beer and two glasses of whisky-and-water a day, and, as a rule, was a non-smoker. The urine was acid, pale, clear, and free from albumin and sugar, with a specific gravity of 1002, and during his stay in London it varied but slightly in its specific gravity, the other characteristics remaining the same. Under treatment he improved, and on Feb. 9th he had lost his thirst and the dryness of his mouth was much better. The quantity of urine passed was also greatly diminished. His appetite was, as it had been during the period of thirst and polyuria, bad. Towards the end of February he went down to Boscombe for a change and remained there till March 7th, when he returned to Bristol decidedly improved in health. During the week March 19th to 25th he held a series of services in his church with all his customary vigour; when it was finished he felt great weakness and lassitude but not the intense thirst which previously had been such a severe trial to him. On April 22nd he went for a drive and vomited more than once during the course of it. On the 23rd he went down to the church intending to hold an early service but found himself incapable of doing so, owing to the dryness of his mouth. His pulse was found to be very weak and rapid, 120 beats in the minute, and cardiac failure was feared. The temperature was subnormal and remained so until his death. However, he rallied a little in the evening and the subject of a long holiday in Scotland was broached. During the night he became slightly comatose, but retained his mental faculties. On the 24th he was still drowsy, and on this day it was first discovered that his urine had undergone a most marked change. It was still acid, pale, clear, and copious, but instead of having a specific gravity of from 1002 to 1006, the specific gravity was found to be 1026 and sugar was present in large quantities; there was no trace of albumin. On the 25th, at 9 A.M., he was very drowsy, but could be roused, and was able to recognise those around him. The coma deepened slowly but surely; at 1 P.M. he became unconscious and remained in this state till his death which occurred at 10.45 P.M., the condition of coma having lasted about 36 hours.

The treatment adopted during the course of this case was briefly as follows: In September, 1898, Dr. Wilding tried the bromides, valerian, strychnine, and arsenic, in full doses. In December, at Dr. J. Michell Clarke's suggestion, 15 grains of bromide of strontium were given twice a day and a pill containing valerianate of zinc, strychnine, and asafœtida was used. Belladonna and atropine were also tried. In January, 1899, a mixture of nux vomica and arsenic in compound infusion of gentian was given, but as the mixture made the patient sick it was replaced by one containing ammoniated tincture and infusion of valerian with decoction of aloes. Effervescing lozenges were taken to allay the thirst and dryness of the mouth. In April, 1899, when the symptoms of coma manifested themselves, citrate of potash, sulphate of magnesia, and sulphate of soda were employed in large doses, but without avail.

The onset of the disease can in this case, I think, be clearly traced to three separate occasions of mental worry and shock, the first being in 1897, when the patient had overworked himself in arranging a bazaar; the second in May, 1898, when his friend died suddenly in his room; and the third in September, 1898, on the occasion of the fire. We might add a fourth—the hard work which the patient did, both mentally and physically, during the week March 19th to 25th, 1899, which preceded the onset of coma. For these reasons, whatever may be the cause of diabetes in other instances, in this particular one I think that the evidence is strongly in favour of the view that the nervous system played a prominent part in the pathology of the disease.

Seymour-street, W.

A NEW METHOD OF SKIN-GRAFTING

BY THOMAS H. KELLOCK, M.A., M.D. CANTAB., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

THE necessity of providing an epithelial covering for a part of the surface of the body from which the whole thickness of the skin has been removed by accident, disease, or operation is one that is constantly arising in surgical practice, and if such a surface be of any considerable extent the result is often somewhat disappointing as far as the appearance of the scar and its subsequent contraction are concerned. In most parts of the body, it is true, a certain amount of contraction in the scar is of little or no importance and then the methods of skin-grafting at present employed give fairly satisfactory results. There are, however, situations in which prevention of this contraction is most important—about the face and neck and at the flexures of the joints, for example—and it is in these and similar situations that I venture to hope that the method of skin-grafting about to be described may prove to be of service. There can be no question that the best method of covering up raw surfaces in these as well as in other parts of the body is by the implantation of a flap of the whole thickness of the skin raised from a neighbouring part and left attached to its original position by a pedicle broad enough to nourish it until it shall have established circulation in its new position; this, however, from the position of the raw surface or from the condition of the surrounding skin is not always possible and some other means have to be employed. The transplantation from some other part of the body of a piece of the whole thickness of the skin of the size and shape of the raw surface and its accurate adaptation to the latter would seem to be the plan offering the best prospect of success in preventing subsequent contraction in the scar, but the difficulty in getting such pieces of skin to grow has caused the method to be discarded almost entirely in favour of Thiersch's method of grafting, in which only the superficial part of the skin is transplanted. The advantages of the latter method are that a large surface can be easily and completely covered in, that healing is rapid, that the part from which the grafts are taken heals rapidly, and, lastly, that it can, if necessary, be carried out without anæsthetising

the patient, for, contrary to what is generally supposed, the pain caused by cutting the grafts is quite trifling provided the instrument used is very sharp. This method has, however, its disadvantages and these chiefly concern the resulting scar in which subsequent contraction is only partially prevented, the surface is hard and closely adherent to underlying parts, whilst the epithelial covering is thin and easily breaks down into ulcers on irritation.

The method of skin-grafting which I have practised on several occasions where the prevention of contraction was important and which I have found to give most satisfactory results is a combination of two of these methods, and consists in raising from some convenient part of the body a piece of the whole thickness of the skin surrounded by a narrow fringe of epithelium only, as in Thiersch's method. After determining the size and shape of the piece of skin to be transplanted in its whole thickness and marking it out if necessary, small superficial grafts (*a*) are cut on all sides of it with a very sharp razor. These are left attached at their bases to the margins of the main part of the graft and can be reflected on to it. The latter (A) is then dissected up in its whole thickness and all fat having been removed from its under surface with curved scissors or a very

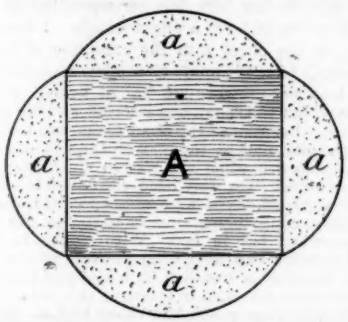


Diagram to represent a graft consisting of (A) a square piece of the whole thickness of the skin surrounded by (*a*, *a*, *a*, *a*) a fringe of epithelium only.

sharp scalpel the whole graft is laid on the raw surface and the edges spread out with care and exactness; these rapidly adhere and by fixing the main part of the graft assist in ensuring its growth. The number of such grafts used depends, of course, on the shape and size of the surface to be covered. When the requisite number have been planted and the fringes exactly spread out they can be treated in the ordinary way as Thiersch grafts. The superficial epithelium from the central part is shed after a few days, as in all cases where the whole thickness of the skin has been transplanted, but the deeper parts remain and the wound is quickly covered over in a very satisfactory manner, the scar showing little tendency to contract and being less unsightly and less adherent to the underlying parts than that after grafting by the Thiersch method alone.

The wound caused by the removal of the graft can be treated in various ways. It may be possible to draw the edges together by sutures, a Thiersch graft may be put on that part from which the whole thickness of the skin has been removed, or it may be left to granulate. Care should of course be taken in grafting by this method that the graft be not taken from a hairy part of the body if the presence of hair in the new situation is at all objectionable, for the follicles are transplanted with the skin and the hair continues to grow. In this, as in all methods of skin-grafting where epithelial grafts are wholly or partially employed, attention to a few details is of great importance. The edges of the grafts must be accurately spread out. Much depends on the adhesion of the extreme edge and a little curling in or overlapping of a part already covered with epithelium may prevent its growth; any air bubbles or blood which may be under the graft must be removed by gentle pressure, this being employed, of course, by the use of some instrument or material which will not adhere to them; the preliminary treatment, too, of the surfaces from and to which the grafts are removed requires attention. It has been shown by experiments[1] that although the vitality of epithelial grafts is not impaired by keeping for a considerable time, or by moderate degrees of heat and cold, they are peculiarly susceptible to the action of chemical antiseptics; these surfaces, then, after having been rendered aseptic, should be treated for at least 24 hours before operation with some aseptic dressing such as sterilised gauze or lint wrung out of plain boiled water, similar precautions being taken with regard to the instruments used at the operation and the dressings applied at the time, so that no chemical antiseptic may come in contact with the grafts until they have become adherent in their new position.

Queen Anne-street, W.

[1] Wentscher: Centralblatt für Chirurgie, Jan. 8th, 1898.

HYDATID OF THE LIVER; SUPPURATION, BURSTING INTO A BRONCHIAL TUBE, DRAINED, AND THE CYST WALL REMOVED THROUGH INCISION INTO THE LUNG; RECOVERY.

BY JOHN JONES, M.D., B.S. LOND.

THE patient, a girl, aged eight years, was brought to me by her mother in July, 1895, on account of a "lump on the child's stomach." On examination there was found a smooth, elastic, rounded tumour lying in the right epigastric region, partly under cover of the lower sternal ribs of that side and extending downwards to within three and a half inches of the umbilicus. The ribs were bulged considerably outwards. Above the tumour was found to become continuous with the liver. There were no pain or tenderness over the tumour, no hydatid vibration, no jaundice, no ascites, and no albuminuria. The spleen was not enlarged, the heart-sounds were normal, and the apex beat was in its normal position. There was no pyrexia. The child's general health was said to be good, but she complained of "shortness of breath" and of "feeling tight across the stomach," especially after meals. The mother stated that she had noticed the "lump coming on" for nearly two years, but that it had not perceptibly increased in size during the past six months—not, in fact, since some of the fluid contents of the tumour had been removed by another practitioner for diagnostic purposes.

Aspiration of the cyst was suggested, but the mother would not consent to any surgical interference. From this time on the child was kept under observation. She remained *in statu quo* until the end of September, 1895, when she developed a dry cough. The dyspnœa became more marked, the tumour became painful and tender, and the temperature, which had hitherto been normal, was constantly raised, but there were no definite rigors. On Oct. 4th the patient was seized with acute pain in the right infra-mammary region accompanied by vomiting. On examination the upper margin of the liver dulness, which had hitherto been at the upper border of the fifth rib, could not be defined, the dulness being now found to extend above the nipple to the extent of one and a half inches. There were well-marked signs of consolidation of the lung in front and a pleuritic rub over the infra-mammary region of the affected side. On the 6th the patient had a severe rigor, followed by profuse perspiration. The temperature was 105·4° F. The vomiting still persisted, and apparently it was independent of the ingestion of food. The cough was worse and small quantities of rusty sputum were expectorated. On the 7th she had two rigors. On the 8th she had another rigor and diarrhœa set in. The cough was now very persistent and painful but the vomiting was much less. From now until the 18th she had one or more rigors daily, followed by profuse perspiration. The diarrhœa still persisted. There was slight jaundice of the conjunctivæ. The patient was rapidly losing ground. Enlarged veins became visible over the front of the lower part of the right chest. Immediately below and internal to the right nipple some œdema of the skin appeared, which gradually extended over the whole of the front of the right chest. Very loud moist sounds could be heard over the lower part of the front of the right chest. The tumour was still very painful and tense. On the 21st I was hurriedly sent for as the child was "choking." On arrival I found the patient

propped up in an armchair and in a very collapsed state. It appeared that she had had a prolonged bout of coughing at the end of which she expectorated about an ounce of sputum of the colour of prune-juice and of a most offensive odour. In the course of a few minutes she had another paroxysm of coughing. A few drachms of fœtid sputum only were expectorated with the first expulsive efforts. The act of coughing, which closely resembled that of whooping-cough but without the terminal whoop, persisted for fully a minute longer, ceasing only when the child fainted.

The mother now pleaded for an operation, although the bad prospects of recovery at this stage were fully explained to her. On examining the tumour it was found to be much less tense than it had been two days previously. There were no signs indicating adherence of the tumour to the abdominal parietes. It was inferred that the œdema of the skin covering the chest indicated that the abscess had burst into the lung at no great depth from the surface or else that it must have burst primarily into the pleural cavity and secondarily into the lung. It was therefore concluded that less immediate danger would ensue from an incision into the chest than from an incision through the abdominal wall. It was decided to make an incision at the spot where the œdema first appeared—i.e., immediately below and internal to the nipple. An anæsthetic was quite out of the question. The skin at the selected spot, after cleansing, &c., was drawn up over the rib next above and a slightly crescentic incision one and a half inches long was made through the whole thickness of the skin. The intercostals were detached from the upper margin of the fifth rib for a similar extent and a sinus forceps was then thrust through the pleura into the lung tissue for the distance of one inch from the external surface of the rib. On separating the blades some fœtid pus exuded. Leaving the forceps *in situ* a scalpel was introduced between the blades and the pleura and lung tissue were divided horizontally to the extent of the skin incision. This was followed by a slight gush of blood and by several ounces of fœtid pus. The forefinger was inserted into the wound and was found to enter into a cavity of about the size of a walnut, from the inferior part of which a track descended directly downwards which easily admitted the tip of the forefinger. A half-inch drainage-tube was inserted and a gauze-and-wool dressing was applied. In two hours' time the dressings were perfectly sodden with the discharge and on removing them the drainage-tube was found to have been expelled. The patient had not expectorated any pus since the incision was made. The drainage-tube was re-inserted, but before fresh dressing could be applied a paroxysm of coughing set in which promptly expelled the tube. The flap of skin was then seen to be sucked in with each inspiration, thus effectually excluding the air yet permitting a free expulsion of pus. The drainage-tube was discarded, only an external dressing being applied. The paroxysms of cough, though now unattended with expectoration and of less frequent occurence, were not changed in character. Consequently some hours later, the patient having rallied somewhat, the wound was dilated and swabbed dry and a reflected light was thrown in. Nothing distinctive could be made out until a paroxysm of coughing occurred which caused a gush of discharge. After swabbing out the pus a pearly white substance could be seen at the bottom of the wound. This white substance was not visible when the paroxysm ceased. Taking this substance to be part of the cyst wall it was decided to wait and during the next paroxysm to seize the cyst wall in the blades of a forceps. During the paroxysm the cyst wall re-appeared in the lower part of the wound and was promptly seized by means of a Wells forceps and slight traction was made upon it. As more of the cyst wall became visible a second pair of forceps was applied behind the first. Traction made during the inter-paroxysmal periods was found to cause tearing of the cyst wall, consequently it was only applied during the paroxysms. The points of fixation of the forceps were alternately changed as more and more of the cyst wall appeared at the bottom of the wound. After 15 minutes the whole of the cyst wall was extracted almost intact. During its extraction about four ounces of the fœtid pus was discharged, to the weight of which must be attributed the proneness of the cyst wall to tear, for on further examination of the latter its friability was not nearly so great as was at first suspected. In volume the size of the cyst wall was rather larger than a Jaffa orange. A little iodoform emulsion was syringed into the cavity and a gauze-and-wool dressing was applied externally. The character of the cough changed entirely after the extraction of the cyst wall, the pertussis-like paroxysms disappearing there and then.

The after-history of the case was uneventful. Within a week the discharge had practically disappeared and in a month the wound had soundly granulated up from the bottom. A slight cough and a slight evening rise of temperature persisted for over two months. The patient was seen and examined in June, 1899, when she looked perfectly healthy and was free from cough. A slight bulging of the ribs and cartilages still persisted. The scar measured an inch in length and was situated in the fifth intercostal space. On auscultation the only adventitious sound heard in the chest was that of a dry rub in the immediate vicinity of the scar.

Clydach, Swansea.

A CASE OF PRIMARY ABSCESS OF THE KIDNEY.

BY J. STEWART, M.CH. R.U.I.

ON June 28th last a patient, aged 35 years, consulted me about a pain in her left side corresponding to the lower four or five ribs and for a slight cough. I found nothing abnormal in the chest with the exception of feebleness of breath sounds from the angle of the left scapula downwards. On July 1st I was asked to see her at home. The pain was still intense, but the cough was relieved and her temperature was 102° F. I examined the chest again and thought that I heard a pleuritic note at the base of the left lung. I visited her up to July 8th when she was so much improved that I ceased attending. On July 22nd she called to see me. The pain had returned, there were attacks of shivering, profuse night-sweats, and a temperature of 103°. On the day following I examined her in bed. With regard to the family history her father had died from phthisis at the age of 35 years and her mother had died from epileptic mania; she had only one brother who died in infancy; she had no sisters. As to her personal history she had never had an illness before. The only thing noteworthy was her menstrual history; she menstruated once every six months, the first period being at the age of 18 years. In spite of this hitherto she had enjoyed most excellent health. A month before seeing me first—viz, on June 28th—she had just got rid of a cough, a cough unattended by pain anywhere and unaccompanied by expectoration. There was nothing but the cough, the patient not feeling ill during this time, but it was of such intensity that it made a most marked impression on the patient's mind, and was quite different from the slight cough which she had when I saw her. This intense cough lasted for a fortnight and suddenly ceased. I again examined the side, but this time also the abdomen, and I found a tumour in the left hypochondriac and lumbar regions. The tumour extended well into the loin, bulging it out slightly when viewed from above, the patient being in the recumbent position. The tumour was smooth and felt solid; there was no fluctuation; it felt tender when pressed between the hands; it was rounded at its lower free end, but no free edge was detected either posteriorly or below such as one would find even in the largest spleen. It could be pushed well into the loin, filling it up; in front it extended to within one and a half inches of the mesial line and below to the level of the iliac crest. It had running down in front a line of partial resonance, and corresponding to this resonance a broad band was felt, very tender on pressure, and which could be rolled underneath the fingers; it was no doubt the descending colon. The tumour moved up and down during respiration. Barwell looks upon this sign as distinguishing between a splenic and a renal tumour, the former moving up and down, the latter not. In this case it did distinctly travel. Notwithstanding this the tumour was clearly a renal one; it was also clear that it was associated with pus, judging from the pain, rigors, sweating, and temperature. Was it a hydro-nephrosis which had become purulent—viz., a pyo-nephrosis? It was to this opinion I leaned; primary abscess never suggested itself, as the great size was against that view. Against the diagnosis of pyo-nephrosis there were strong arguments. There never had been an attack of renal colic or pain and there was nothing abnormal in the pelvic organs, such as tumours, &c., causing pressure upon the ureters. No albumin was present in the

urine, the specific gravity of which was from 1020 to 1025. The microscope revealed flat epithelial cells, masses of flattened epithelium, and large amorphous granular masses. The temperature was always normal in the morning and from 103° to 104° in the evening. The urine collected in 24 hours varied from 18 to 22 ounces, never more. This diminution of urine led me to believe that there was a blocked ureter, thus accounting for absence of pus in the urine examined.

On August 9th I cut down on the kidney by the usual oblique lumbar incision. The two fat layers surrounding the kidney were most distinctly marked. The outer was a thick coarse layer separated by a shining, glistening membrane, remarkably like the peritoneum in appearance, and underneath it the kidney could be seen moving freely up and down. Beneath this membrane the layer of fat immediately surrounding the kidney was much finer in quality and somewhat different in colour, being of a slightly rosy hue. On reaching the capsule of the kidney I again tried for fluctuation, but could not find it, no doubt due to the tenseness of the pus sac. I passed in a fine trocar and at the depth of one-eighth of an inch I felt it in a non-resisting medium and thick creamy pus appeared. I enlarged the opening with the knife sufficiently to admit the index finger. The pus collected measured 16½ ounces. It was thick, creamy, with a slightly urinous odour, and not nearly so offensive as that in a pyo-nephrosis. On examining the cavity it was found to extend upwards and backwards, destroying the upper and posterior segment of the kidney, with the exception of that portion which formed the abscess wall. At the lower part and in the anterior wall of the cavity were several unopened calices, feeling more than anything else like the empty fingers of a small glove. The wall of the abscess was quite smooth. No companion abscesses could be felt and there was still a great mass of kidney tissue left behind. The capsule was sutured to the muscular parietes and the cavity was drained for three months. Very little urine escaped through the drain. The wound completely healed on the seventh day, with the exception of the drain opening. The sinus finally closed.

In this case if the operation had been delayed much longer the abscess would have burst into the perinephric tissues and then it would have been difficult to determine whether it was primary or secondary. The three great causes of primary abscess—viz., injury, stone, and foreign body—were wanting. Was tubercle the cause? Tuffier in a recent monograph on "Tuberculous Disease of the Kidney" never suggests that tubercle is the cause of primary abscess. But it is improbable that a tuberculous abscess could have reached such dimensions and not have infiltrated the remaining portions of the kidney. The mass left behind receded in time under the ribs. The intense cough was due to irritation of branches of the right pneumogastric which descends on the back of the gullet and sends twigs to the left renal plexus. The patient since the operation has gained 18 lb. in weight.

Leeds.

PTOSIS PRODUCED BY INTRACRANIAL LIPOMA.

BY R. HILL SHAW, B.A., M.D., B.CH. DUB.

ON the kind invitation of two colleagues (Mr. E. Webster and Mr. E. F. Frazer) I was present at a post-mortem examination which they held a little while ago on a woman, aged 44 years, whose history predicted that matter of interest would be revealed thereby and in this expectation no disappointment occurred. The female in question had been for many years subject to periodical attacks of severe left frontal headache, which at times made her almost frantic, nor did she ever derive much benefit from treatment for it. About two years ago she noticed her left upper eyelid begin to droop and that she saw twofold. When she sought further advice at the Sussex Eye Hospital the following conditions were found to be present, for the particulars of which I am indebted to Dr. Uhthoff of Brighton, who kindly looked up, and furnished me with, his notes of the case. In his letter he states: "Mrs. —— came to the Eye Hospital on Dec. 6th, 1894. She was suffering from partial ophthalmoplegia externa and interna of the left eye. The fundi were normal. She complained of double vision and of pain in the left temple." Notwithstanding the care and skill which were bestowed upon the patient with a view to rectify the affection of her eye she would appear to have remained in much the same state at the end of 12 months. Mr. Webster, who in the latter part of that period had occasion to visit her home a few times in attendance on her sick husband, had a couple of conversations with her on the subject and as far as he could gather from her, plus a naked-eye examination, he concluded that matters were then as nearly as possible as they are given above. She had still ptosis whereby her eye was half closed and difficulty in moving the globe about in all directions and especially in rotating it upwards. Accommodation, too, was incomplete, as was also the paralysis of the iris. Within a couple of months afterwards, however, Mr. Frazer was treating the woman in question professionally for an attack of apoplexy which at the time was supposed to be due in a great measure to alcohol, a partiality for which had developed itself to an abnormal degree since her ocular disfigurement commenced. This was marked by rigidity and loss of motion of the right arm and leg and by insensibility, together with stertorous breathing, left facial and lingual paralysis, &c., and also by previous anæsthetic sensations of the right limbs and side. This stroke confined her to bed for about six weeks without leaving practically any additional injurious results, though consciousness returned in about six hours, and all the other symptoms showed signs of amendment within a day or so. But the most remarkable feature of this woman's illness was the fact that as she improved in health and strength the ophthalmoplegiæ gradually vanished, except the ptosis which, before having been only partial, now increased and ultimately became absolute. From this stage until the time of her death, about six months later, she was under constant observation and on almost every occasion on which she was seen no change whatever seemed to have taken place from these lines. There were no apparent strabismus, no diplopia, no cycloplegia, no iridoplegia, nor did the muscles of the eye, the levator palpebræ superioris alone excepted, or any of the surrounding structures, show in the slightest degree any departure from normal.

Upon examination the body was found to be well nourished, there being a deep layer of adipose tissue all over the body, and the heart and other internal organs being burdened with fat. On removing the brain from the base of the skull a tumour was found occupying the sella Turcica and surrounding the pituitary body, and covering besides fully the inner half of the left middle fossa. It also masked the left anterior clinoid process and extended over the left upper aspect of the body and the lesser wing of the sphenoid bone and through the sphenoidal fissure to the back of the eye on the same side. Upwards the tumour projected into the Sylvian fissure pushing aside the temporo-sphenoidal lobe, and it left an appreciable dent on the left crus cerebri and the neighbouring structures. Encapsuled between the layers of the meninges it was of about the size of an ordinary hen's egg and when exposed was found to consist wholly of fat. No structures were embedded in the tumour, which was not tense to the feel and was separated throughout from the brain substance by its covering. Here, then, I presume, was the origin and foundation of all the trouble from which the woman suffered, and this may in some measure, perhaps, account for the second and fatal cerebral hæmorrhage. In close proximity behind, and on the upper and inner side of, the tumour was a large recent blood-clot which sprang from a rent in the middle meningeal artery, and just in front and to the outside of this were discovered traces of an organised bleeding which doubtless had its source in the first "stroke" referred to above, and which confirmed the original diagnosis. Another lipoma about an inch in diameter was present at the level of the anus on the inner side of the left gluteal region, stretching across the middle line. Nothing was known of this until the post-mortem examination, otherwise there was a remote possibility that the clue to the cause of the greater abnormality might have been arrived at.

The interest of this case to my mind lies, first, in the paucity of the symptoms, notwithstanding the nature and extent of the lesion; and, secondly, in the great and unexpected change which occurred after the primary hæmorrhage. My theory of the tumour is that it started from the fat at the back of the eyeball, and, finding less resistance, it worked its way and lodged itself in the position indicated. The lesion no doubt pressing upon the centres for the eye would account for the various paralyses

about that region. The metamorphosis accompanying this woman's recovery after her first illness was very extraordinary if not inexplicable.

In conclusion, I would say that to presuppose such a discovery after death as has been described would raise expectations of other than mere pressure symptoms on the branch of the third nerve supplying the levator palpebræ superioris muscle. Why this, and this alone, was implicated was, though sought for, not made out.

Brighton.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF NEEDLE-POINT IN THE FINGER FOR NINE MONTHS; RADIOGRAPH.

BY W. H. COATES, M.B. DURH., M.R.C.S. ENG., L.R.C.P. LOND., &c., BARRISTER-AT-LAW.

A GIRL, aged 16 years, was washing a floor on Dec. 4th, 1898, when she felt a pricking feeling in her finger. During the ensuing fortnight two small pieces of needle came out at the dorsal surface of the right middle finger about the junction of the matrix of the nail with the finger. The pieces were one-quarter and one-eighth of an inch in length respectively. The finger after a lapse of a month became inflamed, and on Feb. 4th, 1899, she came to me for the first time. I removed a needle-point a quarter of an inch long from the ulnar side of the second phalanx of the middle finger. The girl complained constantly of a pricking feeling and inability to use the finger afterwards, so another incision was made, and a second point was removed from the same place, of a slightly less length than the first. The finger was dressed with airol and it rapidly healed, but the patient still complained of the inability to use the member, and of an occasional feeling of a sharp pain if it were pressed. The nail of the finger had in the meantime been shed. As I had removed two needle-points I ridiculed the idea of the possibility of another needle-point in the finger, and as there was certainly no external mark whereby an entrance had been made and on the most careful and repeated examinations I was unable to feel or detect in any way the presence of any foreign body, I felt certain that the patient must have imagined it although she was not neurotic or hysterical in the slightest degree. Six months passed away during which inquiries were made by me from time to time, but always with the same answer that the finger was numb and not so useful as heretofore. On August 24th she was sent to Messrs. Reynolds and Branson of Leeds to have a radiograph taken. This successfully showed the needle which was three-eighths of an inch long and was situated actually on the dorsal surface of the bone. On Sept. 11th a deep incision was made and the needle was removed at once. The whole of the three points were blackened.

Hull.

A CASE OF SNAKE-BITE TREATED WITH CALMETTE'S ANTIVENENE SERUM; RECOVERY.

BY S. J. RENNIE, L.R.C.P. EDIN., M.R.C.S. ENG., MAJOR, ROYAL ARMY MEDICAL CORPS.

A HINDU BOY, aged 12 years, was brought to me at about 9 P.M. on July 10th with typical symptoms of snake-bite in its most pronounced form. The history of the case was that the boy was lying asleep on the ground when he felt something bite him on the little finger of the left hand. Being very drowsy he merely shook off the offender and went to sleep again. He was, however, shortly wakened by great pain in the arm and shoulder, which were seen to be much swollen and discoloured. This was soon followed by vertigo and blindness, and he sank into a lethargic condition, in which state he first came under my notice. On examination two small punctured wounds were seen over the first phalanx of the little finger of the left hand, evidently inflicted by a snake of some 12 to 18 inches in length—probably the dreaded "krait" (Bungarus cæruleus). The left arm, the left chest, and the face were found to be swollen and œdematous; the eyeballs protruded, with ptosis of both lids. Deglutition was difficult, respiration was laboured, and frothy blood-stained sputum was oozing from between the lips. Blood-stained mucus was also exuding from the rectum. There was complete paralysis of the whole of the left side of the body. The heart's action was irregular and intermittent. I at once injected 12 cubic centimetres of Calmette's antivenene hypodermically and gave a beef-tea and brandy enema. Whilst the enema was being given the breathing, which had gradually been getting more difficult owing to the paralysis of the respiratory muscles, ceased altogether. The heart's beats were only four per minute, each beat getting more feeble. Artificial respiration was now commenced and was carried on for 20 minutes, by which time the serum had done its work and the patient had regained power over his respiratory muscles. From this time onward he steadily recovered and in five days was practically convalescent, the symptoms disappearing in the inverse order of their onset. One curious point was that for some 10 days subsequently the patient had diplopia in the left eye (the side he was bitten on), but this also ultimately vanished and he is now as well as ever he was in his life.

The value of Calmette's antivenene serum as a specific in cases of snake-bite has now been so fully proved by experiment in the laboratory and also in many instances in actual practice since the first case treated by me in India some three years ago, that no special advocacy of its claims is necessary. There are, however, two points worthy of note in the foregoing record. One is the proof that the remedy may be employed with every hope of success even in the most extreme cases, and the other is that the serum will retain its properties for an indefinite period in any climate, as the antivenene used had been in my possession in the plains of India for nearly four years.

Meerut, North-West Provinces, India.

NOTE ON A TWISTED PEDICLE.

BY A. C. BUTLER-SMYTHE, F.R.C.P., F.R.C.S. EDIN.

IN May, 1895, a woman, aged 50 years, was admitted into the Samaritan Free Hospital for Women under my care. She had an abdominal tumour and was emaciating rapidly. On examination a large moveable swelling was found somewhat inclined to the left of the middle line and reaching to the umbilicus. On its left side there was a protuberance easily definable through the abdominal wall. Per vaginam the lower part of the growth could not be made out even on firm pressure from above. I asked my senior colleague (Dr. Bantock) to see the patient with me, and he was struck with the extreme mobility of the tumour and also with the fact that it could not be felt from the vagina. He pointed out, however, that the protruding lump was on the right side of the swelling and not on the left as I had stated. Next day I examined the patient again and found the protuberance in its original position on the left side of the tumour and was satisfied that some mistake had been made as to the exact location of the irregular portion of the growth. Two days later the patient told me that she had had a sore, dragging sort of pain in the left side for some hours, but it was not bad enough to complain of at the time. On palpating her abdomen the swelling was found to be much altered in shape, and the protuberance could not be felt on either side. Per vaginam, the base of the tumour was well down in the pelvis and bimanually fluctuation could easily be detected. The uterus was behind the cyst and was freely moveable. Whilst examining the patient I purposely pushed the tumour up out of the pelvis and almost immediately the outline of the protuberance appeared on her right side and moved quickly across her abdomen to the left iliac region. I made a note of the occurrence, and whilst thinking the matter over, the patient's abdomen being uncovered and she lying on her back, I was surprised to see the "protuberance" wandering slowly back across the abdomen from left to right.

A few minutes later on examining per vaginam I found the base of the tumour well within reach of the finger, and no "protuberance" to be felt on either side. There was evidently an ovarian tumour with a long pedicle twisting from without inwards, or from left to right.

Knowing the interest which my colleague, Mr. Alban Doran, takes in such cases I related the facts to him and he kindly offered to assist at the operation, at the same time remarking "that if, as I argued, a complete twist of the pedicle was found the case would be interesting and worth recording."

On the following morning the patient's abdomen was opened and the cyst was emptied. On withdrawing it we found a long thick pedicle, twisted with three half-turns from without inwards, or from left to right, not strangulating the pedicle but allowing the vessels to pulsate freely. On the left side of the tumour was a small cyst or loculus of about the size of a hen's egg, containing thick dermoid-like fluid. The tumour was a papillomatous cystoma. The patient is now in perfect health.

Brook-street, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTERN GENERAL DISPENSARY.

A CASE OF HERNIA THROUGH A CONGENITAL OPENING IN AN ABNORMAL FOLD OF PERITONEUM.

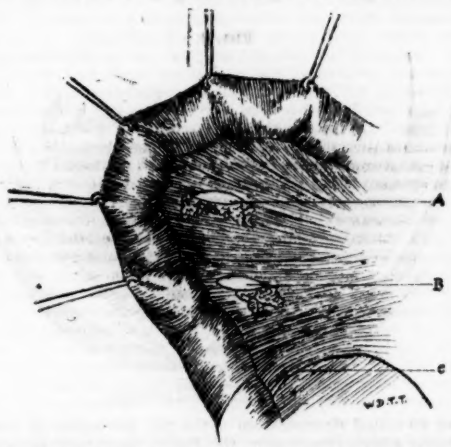
(Under the care of Mr. W. B. PARSONS.)

THERE are two points in this interesting case which are of importance: firstly, the presence of an abnormal fold, an accessory meso-colon; and secondly, the occurrence of a hernia through an opening in that fold. The fact that so large a portion of the bowel (44 inches) had passed through the opening is in favour of the hernia having existed for a long time before its lumen was sufficiently compressed to interfere with the onward passage of the fæcal contents.

On June 6th, 1899, a man, aged 62 years, complained of a feeling of uneasiness in the abdomen which did not amount to actual pain. He had some vomiting of bile-stained glairy fluid, which began on the previous day, and his bowels had not been opened for 10 days. There was a history of chronic constipation, extending sometimes over 10 or 12 days and dating back several years. The abdomen was not distended, but some hard fæcal masses could be felt in the colon. He also had the physical signs of aortic incompetency. An enema of soap-and-water caused a free evacuation of the lower bowel, but there was no subsequent action, and the patient's condition did not improve; the vomiting continued with increased frequency, but at no time was there any pain, tenderness, or marked swelling of the abdomen. The patient rapidly sank and died from syncope on the 11th, six days after the first symptoms of obstruction.

Necropsy.—At the post-mortem examination it was found that the peritoneum was slightly injected here and there and a few flakes of free lymph were observed. There was no matting of the intestines or sign of old peritonitis. The bowel was not abnormally distended. The stomach and greater part of the small intestine contained a feculent liquid but the colon was empty. Lying in the pelvis was a dark-coloured, œdematous loop of bowel, the last 44 inches of the ileum, still retaining its glistening appearance (Fig. 3). It had passed through an opening in an abnormal fold of peritoneum (Fig. 1, B), but was not so tightly gripped as to prevent its easy withdrawal without injury. This abnormal fold of peritoneum, measuring three inches in length, extended from the left side of the pelvis to the sigmoid flexure. It lay anterior to the sigmoid meso-colon (Fig. 2) and it was in the space between it and the meso-colon that the bowel was incarcerated. The abnormal fold, consisting of two layers of peritoneum closely applied, contained between them a set of blood-vessels derived from the sigmoid artery and presented two oval congenital openings three quarters of an inch in diameter with smooth edges. It was through the lower of these that the

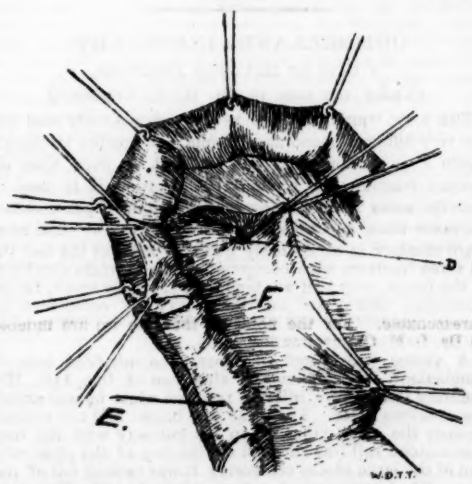
FIG. 1.



Anterior surface of abnormal reflection. A, B, Oval openings with adipose tissue. C, Falciform margin of abnormal fold continuous with posterior false ligaments of the bladder.

hernia passed. This abnormal fold was, in fact, a second sigmoid meso-colon, a space corresponding to about one-sixth of the circumference of the gut intervening between it and the true structure which lay behind. Projecting from its anterior surface were small masses of adipose tissue in no way differing from the appendices epiploicæ. Beyond the

FIG. 2.



Reflected abnormal fold showing sigmoid meso-colon. D, Position of the intersigmoid fossa. E, Reflected abnormal fold. F, Sigmoid meso-colon.

fact that the kidneys showed some fibrous change and that the aortic valves were sclerosed and incompetent there was nothing further to note.

Remarks by Mr. PARSONS and Dr. THOMPSON.—Intestinal obstruction from strangulation of the bowel by internal constricting bands is not an uncommon condition when these are represented by rounded and lengthened, isolated peritoneal adhesions or omental strands; but cases of internal hernia through an opening in an abnormal fold

of peritoneum must certainly be rare. Treves[1] mentions three cases of hernia into the intersigmoid fossa. This is the form of hernia which by its anatomical position corresponds most closely to the case above reported, and it is interesting to note that in all these cases the patient was advanced in age. The points of interest in the present case are the following: (1) the almost entire absence of pain and distension; (2) the complete sealing up of the bowels, there

FIG. 3.

Diagram of incarcerated intestine.

being no actual strangulation of the gut, but rather an incarceration where, presumably, the lumen must have remained wide enough to admit of the passage of gas; (3) vomiting, which did not become fæcal, though at the post-mortem examination a fæcal fluid was found in the small intestine and stomach; (4) death from aortic disease, precipitated no doubt by constant efforts to vomit, in an old and feeble man; and (5) the curious anatomical abnormality. It would appear that the incarceration must have produced a state of paralysis of the bowel, which would account for the complete constipation for so many days. Had the patient's heart been healthy there is little doubt but that the condition would have gone on to one of complete strangulation.

CUMBERLAND INFIRMARY.

A CASE OF MULTIPLE FRACTURE.

(Under the care of Dr. H. A. LEDIARD.)

THE term "multiple fracture" is unfortunately used with two very different meanings: in one it is applied to cases in which a single bone has been the seat of more than one distinct fracture; in its other application it is used to describe cases in which several bones have been broken at the same time, as in the case recorded below. The result there obtained is exceedingly good, in spite of the fact that all three fractures were compound. The ultimate shortening of the femur, only half an inch, was certainly small, for any shortening less than an inch may be considered not unreasonable. For the notes of the case we are indebted to Dr. L. M. Cairns, house surgeon.

A young man, aged 21 years, was admitted into the Cumberland Infirmary on the afternoon of Dec. 11th, 1898, suffering from severe injuries received while he was exercising a vicious horse. The horse had bolted and run violently against the stone pillar of an old gateway with the result that a stone ball was knocked off the top of the pillar while one of the large blocks composing it was twisted out of position. The horse escaped serious injury, but Mr. Wroughton of Wetheral, who was in attendance as soon as possible, found that the rider had sustained compound fractures of the skull, thigh, and lower jaw. After administering a large dose of orphia hypodermically, roughly setting the fractured thigh, and otherwise making the man as comfortable as possible, Mr. Wroughton ordered his removal to the Cumberland Infirmary, where he was admitted as stated.

On admission the patient was quite conscious but was suffering severely from shock. There was a large wound at the upper part of the right temple, with a fissured fracture of the frontal bone beneath; the lower jaw was fractured on each side near the angle and also on the right side near the condyle, and there was a compound fracture of the right femur in its lower third, the upper end of the lower fragment projecting through a small punctured wound on the anterior surface of the thigh. Chloroform was at once administered and the various wounds were attended to in turn. A considerable amount of dirt had been ground into the scalp wound and the fissure in the frontal bone, but this was removed by vigorous scrubbing with a 1 in 20 carbolic lotion and the wound was stitched up. The right lower bicuspid had been loosened by the accident and was extracted now for feeding purposes. The fragments of the jaw were then carefully adjusted and a moulded external splint was applied. On examining the thigh there were found to be nearly three inches of shortening from over-riding of the fragments and there was a great deal of muscular spasm, but this was readily overcome by extension under the anæsthetic, and the fragments were brought into fairly accurate apposition. It was then found that the small external opening in the thigh led into a large cavity which had evidently been made by the movements of the fragments at the seat of fracture. This was cleansed as thoroughly as possible, swabbed out with carbolic acid, and plugged with gauze. Extension and counter-extension were then applied in the usual way and the thigh was put up in an interrupted long splint.

The patient passed rather a restless night, but seemed to be better on the next day and took fluid nourishment fairly well. On the second night, however, his temperature rose to 100·2° F. and he became actively delirious, trying to get out of bed, &c., so a long splint was applied to the other side also. By means of this and large doses of morphia he was kept fairly quiet, but active nocturnal delirium continued for over a week and constant attention was necessary to keep the bones in position. The wound in the thigh was dressed daily and the discharge remained purely serous for nearly a month, but then became purulent, and eventually a counter-opening had to be made on the outer and posterior aspect of the thigh. By this time firm union had taken place and as free drainage was now established the wound soon healed. The jaw also did well and the portions had united firmly and in good position by the end of the fourth week. The wound in the scalp healed apparently by first intention and the stitches were removed on the ninth day. At the end of a month, however, a small pustule appeared at the upper angle of the wound and on opening this about half a drachm of thick pus escaped; a small area of bare bone could then be felt at the bottom of the wound. On the following day (Jan. 11th, 1899) there was a good deal of redness around the wound, and on the evening of the 12th the temperature rose to 101·6°, while on the 13th it reached 103·2°. The eyelids meanwhile had become swollen and almost closed, and there was a good deal of redness and swelling in the sub-maxillary region on that side. Although the appearances were not at all characteristic of erysipelas it was thought advisable to isolate the patient and this was done on the 20th. The temperature fell to normal in a day or two under small doses of quinine and iron, and the slight delirium which had accompanied the elevation of temperature also subsided. The swelling of the face and forehead was speedily reduced by the application of boric fomentations, and although a small sinus persisted at the upper angle of the scalp wound for some time this also healed eventually, and by the end of the twelfth week the patient was practically well in every respect—the wound on the head had quite healed, the jaw had united firmly and could be brought into fairly accurate apposition with the upper jaw, thus allowing the patient to masticate freely, while the wound in the thigh had completely closed and firm union had taken place with only half an inch of shortening. Three and a half months after the accident he was able to get about on crutches and on April 8th he left the hospital cured. When he returned to report himself five months later he stated that his injuries had not incapacitated him in any way. The upper and lower jaws could be brought into perfect apposition, he walked with a barely perceptible limp, could sit a horse as well as ever he did, and was quite able to discharge his usual duties.

Remarks by Dr. CAIRNS.—Such a perfect recovery from a number of injuries, any one of which would be considered serious in itself, was probably largely due to the fact that the patient's constitution was of the strongest and that from his

[1] System of Surgery, vol. ii., p. 659.

constant training and temperate mode of living he was in the pink of condition when the accident happened.

ROYAL ALBERT EDWARD INFIRMARY, WIGAN.

TWO CASES OF TRAUMATIC EPILEPSY; TREPHINING; RECOVERY.

(Under the care of Mr. R. H. COWAN and Mr. E. H. MONKS.)

THE best results are obtainable in Jacksonian epilepsy when the operation is performed soon after the infliction of the injury; the benefit is decidedly less if months or years have elapsed, and von Bergmann[1] is inclined to doubt whether much is gained in most cases by surgical treatment. It probably depends entirely on the nature of the injury. If a bony spicule is irritating the brain its removal will in all likelihood be followed by a cessation of the epileptiform attacks, but if the lesion is situated in the cortex even excision of that portion of the motor area will rarely stop the attacks permanently. Yet cases do occur, as in the second recorded below, where trephining is followed by a cessation of the epilepsy, although no obvious lesion is discovered at the operation. Unfortunately this amelioration is very rarely permanent, although the beneficial effect of the operation is undoubted. For the notes of the cases we are indebted to Dr. W. Cunningham Milroy, late senior house surgeon.

CASE 1.—A man, aged 55 years, was admitted into the Royal Albert Edward Infirmary, Wigan, on Sept. 23rd, 1896, having fallen downstairs four days previously. The patient was suffering from total aphasia on admission but was perfectly conscious; the temperature was 100° F. On the third day after the fall he had eight epileptiform seizures and during the 12 hours following his admission he had four such attacks, each being more severe than the last. In these attacks the parts affected were the right side of the face and the right arm. During the attacks the patient was unconscious and the muscles affected were in a state of clonic spasm which lasted several minutes. On shaving the patient's head the only evidence of injury observed was a small bruise on the right side of the occiput which was evidently superficial. After seeing the patient in one of the epileptiform attacks Mr. Monks decided to trephine over the centres for the right arm and the right side of the face in the left Rolandic area. When the bone was removed the dura mater was seen to bulge rather more prominently than usual and on incising it a large blood-clot presented. A crucial incision was made in the dura mater and the clot was broken down with a probe and washed out carefully with boric lotion. As intracranial pressure was evidently the cause of the symptoms the disc of bone was not replaced, but the wound was lightly packed with iodoform gauze and allowed to granulate up. The twitching ceased entirely after the operation. On Sept. 25th (the third day) the head was dressed and on the same day the patient first spoke distinctly. From this time he went on well, his power of speech improving each day. On Oct. 13th he was allowed to be up for a little and could walk by himself. He, however, complained of headache after being up and was kept quiet for a day or two longer. The wound on the head was quite healed (leaving a depressed cicatrix) by Oct. 20th and he was discharged cured on Nov. 7th. In February, 1897, he had for some weeks been working as a collier and was perfectly well.

CASE 2.—A young woman, aged 19 years, was admitted into the Royal Albert Edward Infirmary, Wigan, on Dec. 3rd, 1896, suffering from "fits"; she was said to have had 14 separate fits on the day before her admission into the infirmary. The history was that three years previously she had been struck on the right side of the head by a shuttle in the factory in which she worked and since then had suffered constantly from epileptic attacks. The patient's mother stated that the scalp was not cut by the shuttle in the first instance, but she said that some time after a "tumour" grew in the same place which was removed some months before admission. On shaving the head, however, there was absolutely no appearance of anything like a cicatrix. There was no scar whatever in the place where the patient said that the shuttle had struck her, which was in the region of the right parietal eminence. On admission the patient had an epileptic attack in the bathroom which lasted ten minutes. The movements were confined entirely to the left side of the body, the arm and leg on that side moving up and down rhythmically and the left side of the mouth twitching. She foamed at the mouth but did not bite her tongue. She remained unconscious for about half an hour after the fit. Her temperature was 98° F. During the night she had one fit lasting 20 minutes, after which she slept well. On the 4th she had one fit lasting 45 minutes, during which she was very violent, and she was much exhausted afterwards. Otherwise she was in pretty good health and her appetite was good. On the 5th she had three fits. On the 6th she had three fits and in the night from 11 P.M. to 3 A.M. she was constantly convulsed. On the 7th she had five fits and severe headache all day, and on the 8th she had four more fits. Her eyes were examined by Mr. H. E. Jones, who found that the upper and lower margins of the optic discs were slightly blurred but no typical optic neuritis was present. On the 9th Mr. Cowan, after chloroform had been administered, trephined over the right Rolandic area. The bone was removed, the dura mater was incised, and a fine-grooved director was used to explore the substance of the brain to the depth of about one inch. There was free hæmorrhage from the parts, but absolutely nothing abnormal was discovered. The bone was not replaced, but the cavity was packed lightly with iodoform gauze and the semilunar skin flap was stitched in position. There was a good deal of oozing for the first six hours but not afterwards. The patient complained of some pain in the wound for the first two days but the temperature never rose above the normal. The wound granulated up quickly, being packed from each end of the incision. She was allowed to be up for an hour on the 25th after the wound had been healed for a week. She was kept in the infirmary and as quiet as possible until Jan. 27th, 1897, when she was discharged. From the time of the operation till her discharge she had no fits or any twitching that might suggest a fit about to come on. She reported herself at the infirmary on Feb. 12th and was then in good health and had had no return of the attacks.

Remarks by Dr. MILROY.—These two cases are exceedingly interesting by way of contrast. In both there was a clear history of antecedent injury and in both there was typical Jacksonian epilepsy. In Case 1 it is instructive to notice that the hæmorrhage was not at the seat of the external injury but was on the other side—evidently the result of *contrecoup*, and to it we were guided by the localising symptoms. Case 2 differs widely from the first case. In it absolutely no morbid change was made out when the brain was explored. The cessation of the fits may be explained on two theories: (1) either the free depletion of the brain-substance which occurred at the operation cured some subacute cerebritis which was the cause of the attacks, or (2) that as the result of the operation and the incisions in the brain-substance the circulation of the centres in that region was so altered that the source of irritation, whatever it may have been, was removed. Of course, it is too soon (February, 1897) to claim a permanent cure in this case, but at no time since the accident, three years before admission, had the girl passed anything like ten weeks without a fit. In conclusion, I have to thank Mr. R. H. Cowan and Mr. E. H. Monks for kindly permitting me to record the cases.

PS.—Patient No. 2 has remained well (November, 1899), is working regularly in a mill, and has had no return of fits.

[1] Annals of Surgery, March, 1896.

BRISTOL MEDICAL SCHOOL.—The annual dinner of the Bristol Medical School took place on Nov. 16th at the Clifton Grand Spa, under the presidency of Mr. Nelson Dobson. Nearly 200 members of the profession were present. During the evening a telegram was sent to the Queen expressing thanks for the honour conferred upon the city by her visit and the following reply was received: "To the President of the Bristol Medical Dinner.—The Queen desires me to express her thanks to the members of the Bristol medical profession for their kind and loyal message.—(Signed) Arthur Bigge."

UNIVERSITY COLLEGE, BRISTOL.—The first annual dinner in connexion with the University College Colston Society will take place on Dec. 7th. The society is the outcome of a public meeting held in April last and is for the purpose of "the endowment of a Colston chair in connexion with University College, Bristol, or assisting the College in some other manner as the committee of the society may think fit." The Bishop of Hereford is the President and the Right Hon. James Bryce, M.P., will be the guest of the evening.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Pathology of Tabes Dorsalis and General Paralysis of the Insane.

A MEETING of this society was held on Nov. 21st, Mr. WATSON CHEYNE, the President, being in the chair.

Dr. F. W. MOTT made a communication on the Pathology of Tabes Dorsalis and its Relation to General Paralysis of the Insane, illustrated by lantern slides and microscopical preparations. There was not time, he said, to go into all the views as to the cause of the posterior sclerosis in tabes, but it was now generally held that this was secondary to a degeneration of the nervous structures. General paralysis of the insane was often regarded as a meningo-encephalitis with secondary degeneration in the nervous structures, but his investigations had lead him to the belief that it was primarily a degenerative process and that the inflammatory process was secondary. As regards the relation of the two diseases, the tabetic form of general paralysis was recognised clinically by Baillarger in 1862 and later, in 1867, Westphal demonstrated the anatomical lesion in the posterior columns of the spinal cord. Since then a discussion had occurred, in which a number of neurologists and alienists had taken part, as to whether the two diseases could be looked upon as the same morbid process, differing only in that it affected different parts of the nervous system. It was well known (1) that a certain number of cases of tabes might begin with mental symptoms or that mental symptoms in the form of crises might occur in the course of tabes; many such cases had come under Dr. Mott's notice in the London county asylums; (2) a certain number of cases of general paralysis presented tabetic symptoms during life and post mortem showed atrophy and sclerosis of the posterior columns of the cord and the posterior roots; and (3) a few cases of tabes had been met with which later in the disease developed well-marked symptoms of general paralysis. Dr. Mott stated that he, in conjunction with Dr. Hamilton Wright, had investigated the microscopical changes in eight cases of tabes dying in the asylums; all these cases with one exception showed more or less clinical symptoms and pathological changes indicative of general paralysis. Dr. Mott expressed the opinion that it was proved that syphilis was the most important factor in the production of both of these diseases. The evidence was insufficient to show that if there were no syphilis there would be no general paralysis or tabes; nevertheless, inference might almost lead one to suppose so and to allow the claim that these diseases might be regarded as para-syphilitic. The close relationship of these two disorders was strikingly shown in their etiology as regards sex, age, social position, and urban life. He referred to the fact that in the 22 cases of juvenile general paralysis (one of which was of the tabetic type) which he had had the opportunity of seeing, definite signs of a history of syphilis were obtained in 80 per cent. and could not be excluded in the remainder. Similarly the relationship to juvenile tabes had been proved in the recorded cases. He had seen one case of that malady, and that had had well-marked signs of congenital syphilis, the father having since died from general paralysis. Various clinical phenomena which were considered characteristic of tabes, such as grey atrophy of the optic discs, ocular paralyses, perforating ulcers, and Charcot's joint disease, he had seen in general paralysis. Some of the "delusions of electricity" were doubtless due to irritation of roots, and possibly visceral crises might form the basis of many other delusions. The most important physical sign in general paralysis, as in tabes, was reflex iridoplegia, and this symptom was only met with otherwise in syphilitic brain disease. He referred to several cases which had come under his notice that for a considerable time had presented symptoms of tabes and subsequently had developed general paralysis. He considered that the pathological process in the two diseases was identical—viz., a primary progressive degeneration of the neuron with secondary sclerosis and inflammatory or sub-inflammatory conditions in the vessels or adjacent membranes due to irritation, caused by the products of degeneration and a formative proliferation of the glia elements. In the case of tabes the degenerative process affected almost exclusively the first afferent system of neurons, and the degeneration in the posterior columns corresponded when complete with that which would be obtained by cutting the posterior root. Thus exogenous tracts were affected and the endogenous were spared. The exogenous tracts consisted of short, medium, and long fibres, occupying definite positions (the comma tract, the oval area, and the cornu commissural zone), entering into the formation of three nervous circles, the spinal, cerebellar, and cerebral respectively, and controlling the action of the muscles. He had found in conjunction with Professor C. S. Sherrington that one of the most marked effects of section of posterior roots was a loss of muscular tonus and he regarded the lower and unequable tonus as an important factor in the production of the ataxy. It might be argued that if the disease were a primary degeneration of the neuron, why had not obvious changes been more frequently noted in the posterior spinal ganglion cells? In answer to this he had found no chromolytic changes in the cells of the posterior spinal ganglia after section of the posterior roots in monkeys. It had, however, been shown by Van Gehuchten that section of the peripheral nerve-trunks produced chromolytic changes in the cells and also atrophy. He had examined the spinal ganglia in six cases, and in only two were there definite chromolytic changes. In both of these the peripheral nerves were affected. In all the cases, however, the cells showed excess of pigmentation and some shrinking and irregularity. Dr. Mott remarked that a number of authorities had examined the spinal cords in the tabetic form of general paralysis. One set of observers claimed that the lesion was of the same nature as tabes, while others held the opposite opinion. In the cases examined by Dr. Mott, of which he showed specimens, the lesions were certainly typical of tabes, and these also showed changes in the brain to a more or less marked degree typical of general paralysis. In the cases where these were slight some authorities might regard them as being tabes with mental symptoms. But Dr. Mott considered that these borderland cases between tabes and general paralysis formed an important link in proving the unity of the two diseases.

Dr. ALEXANDER BRUCE (Edinburgh) said he would confine his remarks to the anatomical evidence in its relation to etiology. Everyone now admitted that the lesion in tabes could not be a sclerosis, but that it was a degeneration which began in the intra-spinal continuation of the posterior roots. Dr. Mott's specimens certainly showed that the exogenous columns suffered most and went to the ground first. As to what was the cause of this degeneration, he had been at first fascinated by the view of Marie that it was an alteration in the nutrition of the posterior root ganglia. But if this were so it was difficult to understand why it should be so limited to these fibres and not affect the extra-spinal portion of the peripheral nerves, which were hardly at all affected. Moreover, the degeneration of the root ganglia was not a proportionate one. In the view of other observers it was thought to be the collaterals which were first affected, but this was only begging the question. The view he favoured was that of Redlich and Obersteiner. The posterior roots when they entered the cord entered it quite differently to the anterior roots. The posterior root underwent a sharp constriction and the medullary sheath became very thin. The disease began at the point just at the entrance of the fibres into the cord. This arrangement was very like the constriction of the optic nerve. Moreover, they had conditions which might increase this constriction. Around the point of entry was a blood-vessel and in early cases he had found a distinct thickening in this position, a thickening of the meninges just such as syphilis might produce. This might well explain the limitation of the disease to the parts within the cord. He thought they must not assume too readily that the meningeal changes were secondary to the nerve degeneration and due to the products of that degeneration. There were several reasons against this. To accomplish this result they assumed that the products of degeneration were extremely toxic. He could not quite agree that the change in neuron was primary and that in the meninges and connective tissue secondary. One of the earliest alterations in general paralysis was a vascular change, such as a hyalin degeneration of the vessels. This he had found before any very marked nerve changes could be detected. Another fact against the nerve changes being the primary ones was the

frequency with which he had found inflammatory foci with dilated vessels and round cells scattered through the cortex. The action of the toxin on the vessels would just as well explain the symptoms of the disease, as the action of the toxin on the nerve elements, and he could not regard the nerve changes as primary and the vascular as secondary.

Dr. T. BUZZARD said that he felt so little qualified to discuss from intimate and personal knowledge the microscopical revelations dependent on the most recent staining processes that he should almost have shrunk from rising on the present occasion but for the opportunity which it gave him to express his appreciation of the extreme importance and value of the paper and demonstration which they had before them. Clinical observation must largely be concerned in this question of the pathology of tabes and its relation to general paralysis, and it was from that side that he would venture to make a few remarks. His experience was that mental symptoms might and did, though not very frequently, occur in tabes, but he could not call to mind an instance in which tabes had begun with mental symptoms. He had seen a very considerable number of cases of general paralysis which presented symptoms of tabes during life, and, indeed, had not unfrequently experienced great difficulty in determining to which category the case should be allotted, but opportunities had been wanting to him to observe the pathological condition post mortem in cases of general paralysis, as these usually passed into the hands of the alienist. He would say at once that from a clinical point of view he quite agreed with Dr. Mott in regarding the evidence that syphilis was the most important factor in the production of both tabes and general paralysis as unquestionable. Dr. Mott's unique experience as regards juvenile general paralysis appeared to him to present overwhelming evidence as to the dependence of general paralysis on syphilis because in such cases extraneous causes could be excluded. And he was also disposed to think that there was sufficient evidence to show that general paralysis and tabes were one and the same disease affecting different parts of the nervous system. In 1890 a husband and wife consulted him, both suffering from typical tabes. The man had had syphilis in 1880 and had married within two months. His wife had a bubo two months after marriage and lightning pains six years later. Under specific treatment the husband greatly improved; the wife developed grandiose conceptions of a kind completely characteristic of general paralysis of the insane. She then passed into a stage of maniacal violence and died in an asylum in the middle of 1891 after a succession of epileptiform and paralytic seizures. As regards the second point proposed for discussion he believed that both diseases could in a certain proportion of cases be pathologically considered as a primary decay of the neuron with secondary inflammation and sub-inflammatory changes in the meninges and formative proliferation of the glia cells. But he did not think that that was always the case and it was very likely that, as he felt pretty sure occurred in insular sclerosis, the two processes might go on side by side. In reference to the third point for discussion—was the toxic influence of syphilis absolutely essential for the production of these diseases?—the infection of syphilis was in his opinion unquestionably the most frequent cause, but it had not yet been proved to be the only one. It often, indeed, happened that in a case of tabes they could only obtain a history (though a circumstantial one) of a soft sore. Until they had exhausted other possibilities, to argue that in such a case there must necessarily have been true syphilis mingled with the chancroid did not appear to him to be quite logical, as it assumed a necessity for the presence of that which had not been proved to be absolutely essential. It was true that the exact nature of the soft sore was still *sub judice* and the question in what way, if at all, it was related to syphilis was undetermined. In view, however, of the fact that a specific micro-organism had been described by Ducrey, Unna, and Buschke as being present in the soft sore (though not in syphilis), it appeared to him that it was premature to put the soft sore out of court as a possible source of a toxin, distinct from that of syphilis, but capable of likewise causing the degenerative changes in question. This view was evidently one worthy of consideration and he had already elsewhere referred to it. He would take this opportunity of acknowledging the priority of Hitzig in suggesting the possible influence of the soft sore, of which he was not aware when writing a paper read at the British Medical Association meeting last year in which the subject was mooted by him. It would be remembered that in multiple peripheral neuritis, a disease characterised by fine degenerative changes, which was always of toxic origin, the lesions observed microscopically were essentially the same whatever might have been the particular toxin by which they had been brought about.

The discussion was then adjourned to the next meeting of the society on Dec. 5th.

Microscopical specimens were exhibited by Dr. MOTT and Mr. SALAMAN.

HARVEIAN SOCIETY OF LONDON.

Fibroid Tumours of the Uterus.

A MEETING of this society was held on Nov. 16th, Dr. W. J. GOW, Vice-President, being in the chair.

Dr. A. H. N. LEWERS read a paper on Some Interesting Cases of Fibroid Tumours of the Uterus. The cases illustrated some of the principal varieties of uterine fibroids and showed some of the chief methods of treating them in use at the present time. In Case 1 the chief point of interest was the remarkable diminution in size of the fibroid tumour following removal of the uterine appendages; on one side the ovary formed a suppurating ovarian cyst of the size of a cocoanut. Cases 2, 3, and 9 were typical examples of large uterine fibroids successfully removed by abdominal hysterectomy with intra-peritoneal treatment of the stump. In Case 3 a point of interest was that in one place the fibroid had undergone cystic change and the cavity so formed contained pus. Case 4 was an example of pregnancy complicated with a large subperitoneal fibroid in which expectant treatment was adopted with a satisfactory result, the patient being delivered naturally at term without any complication either during the labour or afterwards. The patient was seen some two or three months later when the subperitoneal fibroid could easily be felt by abdominal palpation alone. Cases 5 and 6 were examples of removal of fioroids, partly submucous and partly interstitial, from the cavity of the body of the uterus after dilatation of the cervix by enucleation and *morcellement*. Case 8 was one of a large subperitoneal fibroid removed by myomectomy with intraperitoneal treatment of the pedicle; in this case the body of the uterus was not removed. Case 7 was on account of its rarity perhaps the most interesting of the whole series. It was a case where an interstitial fibroid of the posterior wall of the uterus sloughed *en masse* and was discharged through an opening formed in the posterior lip of the cervix. When first seen (May 30th, 1899) the case appeared to be an ordinary one of uterine fibroid, the tumour reaching nearly to the umbilicus. The vaginal cervix at that time was not encroached upon by the fibroids, yet on July 20th the upper part of the vagina was found to be occupied by a large fœtid friable mass. Careful examination under anæsthesia showed that the os uteri lay in front of the mass which was coming through an opening formed in the posterior lip of the cervix. The patient was feverish and extremely ill. All that was done was to remove the fœtid mass with the fingers as completely as possible, much in the same way as a decomposing retained placenta would be removed, except that in the present case the decomposing mass (the fragments of which weighed 2 lb. 8 oz.) was situated in the substance of the posterior uterine wall and not in the cavity of the uterus. The patient continued to suffer from septic fever even after the sloughing fibroid had been removed as completely as possible and finally died from it some three months later. The specimens corresponding to several of the cases were exhibited.

The CHAIRMAN referred to the importance of the subject under discussion because, since the mortality of hysterectomy had so greatly diminished, the indications for operative treatment had considerably altered. He criticised the employment of drainage after abdominal hysterectomy and considered that it was seldom necessary.

Mr. ALBAN DORAN dwelt on the different surgical methods for the treatment of uterine fibroids which he had seen introduced, practised, and supported by plausible arguments and yet often discarded. There was still great room for improvement. The removal of small fibroids which caused no symptoms was bad surgery though it might be brilliant operating. Altogether retro-peritoneal hysterectomy was preferable to the more conservative myomectomy and to the more radical panhysterectomy. Too great stress was now

laid upon the supposed advantages of leaving the ovaries, just as too much importance was attached 20 years ago to their complete removal. The surgeon must remember that leaving the ovary might mean shutting up in the abdomen a portion of a diseased tube with its mucous membrane exposed. Abel and Zweifel had shown on clinical evidence that when the ovaries were left behind they nearly always atrophied, so that the menopause occurred within three years of the hysterectomy. Zweifel believed that when this atrophy did not occur it signified that a portion of the body of the uterus was left in the stump; hence he now made large flaps consisting of more than the tissue of the cervix. They had yet much to learn, but in the meantime they should remember that an artificial menopause was seldom very formidable.

Dr. W. W. H. TATE agreed with the remarks of the Chairman with regard to drainage in cases of abdominal hysterectomy for fibroids. He considered that drainage was rarely necessary where the broad ligaments and uterine arteries had been securely ligatured and the stump carefully sutured. Referring to Case 7 in the paper he wished to ask Dr. Lewers whether he did not think that removal of the whole uterus might have given the patient a chance of life, seeing that partial removal of the sloughing tumour per vaginam had failed to relieve the patient. Dr. Tate had assisted Dr. Cullingworth in a case in which a large sloughing fibroid occupied the vagina and an attempt had been made to remove it. It was found impossible to remove the whole tumour, the portion left behind being sloughed, and the patient's condition became extremely grave. Three days after the first operation Dr. Cullingworth decided to perform abdominal hysterectomy and the patient made an excellent recovery. Mr. Doran had referred to the greater mortality of abdominal hysterectomy in cases of large tumours compared with small. He (Dr. Tate) did not agree that this was the case, as it frequently happened that a large fibroid was removed much more easily and safely than a small one. Bearing on the operation of oöphorectomy for fibroids, he thought it important to consider the symptoms before deciding on this means of treatment. Even where the size of the tumour did not contra-indicate the operation the presence of severe pain in the tumour suggested some degeneration or necrotic change, and it was doubtful whether under these circumstances removal of the ovaries would be followed by the desired result.

Dr. R. BOXALL drew attention to the difference in fibroids, to variation in their position and mode of growth and of the symptoms to which they give rise—differences which affect materially the question of operative interference and the choice of the most suitable operation in individual cases. He instanced several cases which presented unusual features and in particular directed attention to the necessity of taking measures to prevent large abdominal fibroids from sinking into and becoming impacted in the pelvis during the shrinkage which usually takes place after the menopause.

Dr. LEWERS replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on Nov. 3rd, Dr. E. H. BENNETT, President of the Academy, being in the chair.

Dr. ARTHUR H. BENSON and Dr. H. C. EARL exhibited a series of pathological Eyes, Half Globes (mounted in formalin), and Microscopical Sections. The first section was one of Glioma removed from a child aged four months. It was now seven months since the operation and so far no recurrence had taken place. Glioma was the only tumour originating in the retina. It was perhaps the most malignant growth occurring in the human body and the prognosis was favourable only when removal was carried out early. It was essentially a disease of infancy and early life and might even be congenital. It was usually monocular and was never pigmented. The second case (Sarcoma of the Choroid) was that of a boy, aged three years, from whose right orbit a fungating mass of the size of a duck's egg protruded. Removal of the whole contents of the orbit was performed, but it was found that the orbit back to the posterior foramen was completely filled with the growth. Recurrence took place in a month. The third specimen (Epithelioma of the Cornea and the Conjunctiva) was taken from a man aged 69 years. The whole cornea and part of the ocular conjunctiva were covered by the growth. Enucleation was performed. The tumour was unpigmented, flat, and sessile, with a very broad base, and had ulcerated. The next specimen was one of Bony Degeneration of the Choroid in a woman, aged 50 years, who had had a diabetic cataract removed from one eye in 1898. The other eye was collapsed and blind since childhood, the result of an accident. It was irritable and painful to the touch and as it was believed to be the source of irritation in consequence of possessing a bony choroid it was removed. The choroid was found to be converted in its whole extent into a layer of true bone. The lens was calcified, not ossified. The last specimen was one of Collapsed Globe, after cataract removal, in a woman on whose left eye a combined extraction of an opaque lens was performed. An asthenic suppurative cyclitis resulted, the globe shrank, and vision in the eye was lost. Seven and a half months after the globe was collapsed and the right eye had a condition very suggestive of sympathetic ophthalmitis. As the shrunken left globe was believed to be the cause of the trouble in the right eye enucleation was performed. Four days later the patient became delirious and she died 16 days after the operation.

Mr. HENRY GRAY CROLY exhibited specimens of (1) Fracture of the Base of the Skull; and (2) Sarcoma of the Testis.

Dr. JOHN KNOTT showed some specimens of Fractured Humeri. In connexion with one showing fracture of the lower end of the bone he drew attention to the fact that the epiphysial line of the lower articular surface of the humerus does not involve the condyles.—Mr. CROLY, referring to one of the specimens, said that epiphysial fracture of the upper end of the humerus included the tuberosities.

MIDLAND MEDICAL SOCIETY.—The second ordinary meeting of this society was held in the Medical Institute, Birmingham, on Nov. 1st, the President, Dr. E. Rickards, being in the chair. The following gentlemen were elected members of the society:—Mr. T. H. Wilkins, Dr. Leonard Boyer, Dr. E. S. Gorman, Mr. W. Billington, Mr. J. F. Atkins, Dr. M. J. Wakefield, and Mr. J. W. Turner.—Mr. L. P. Gamgee showed a boy, aged six years, who three years ago had suffered from severe Cancrum Oris of the Right Side of the Face, resulting in complete Fixation of the Right Temporal-maxillary Joint by firm cicatricial tissue. To remedy the condition a portion of the lower jaw in front of the cicatricial mass was excised and a false joint was made. The result had been quite satisfactory, the boy being enabled to separate the front teeth to the extent of one and a quarter inches.—Mr. Jordan Lloyd showed a large Osteo-chondro Sarcoma of the Pubes removed from a man, nearly 40 years of age, whose father underwent amputation at the hip-joint some 30 years ago for a similar tumour in connexion with the femur. The growth completely filled the pelvic cavity, compressing the urethra to such an extent as to interfere with micturition, a chronic cystitis resulting. The part of the tumour outside the pelvis was larger than an adult head and extended nearly half-way down the thigh. The operation was resorted to for the sake of relieving the cystitis and the man's general condition at the time was very unsatisfactory from pyæmia and urotoxæmia. The whole tumour was removed by *morcellement* and without injury to the pelvic viscera and with the loss of only a few ounces of blood. The patient rallied easily from shock and died somewhat unexpectedly the following morning from asthenia.—Dr. Douglas Stanley showed the Tibia and Fibula from a case of Joint Disease due to Tabes. There was marked new formation of bone at the lower end and also an increased porosity. A cast was also shown taken from the Right Knee of a man, aged 59 years, who was the subject of Tabes. When about 12 years of age he had sustained a severe injury to the knee, as the result of which it became ankylosed. When he came under observation in February, 1899, the injured knee showed "Charcotic" changes in process.—Mr. G. P. Barling read a paper entitled "Appendicitis: A Review of 117 Cases of Operation."——At the third ordinary meeting of the society, held on Nov. 15th, Mr. Henry Eales being in the chair), Dr. E. Malins showed Two Cases of Vaginal Hysterectomy. In the first case, in which the

pregnant uterus was removed for carcinoma, the patient was 40 years of age and had seven children, but had had no miscarriages. Her labours had been difficult, the last being in August, 1897. Her illness dated from that time. She complained of pains in the back and lower abdomen and irregular menstrual discharge with occasional flooding. On admission on Oct. 13th a mass was found on the anterior lip of the cervix two and a half inches broad, bleeding on touch and readily breaking down. The uterus was enlarged, being also the seat of a 10 weeks' pregnancy. The operation of vaginal hysterectomy was performed on Oct. 14th. The broad ligaments were clamped with forceps, 10 pairs being used. To facilitate removal the uterus was split posteriorly to within a short distance of the fundus. The forceps was removed in 48 hours. The patient made an uneventful recovery. The growth presented all the characteristics of carcinoma of the cervix. In the second case the uterus was removed for Persistent Metrorrhagia. The patient, who was 44 years of age, had had 14 children and three miscarriages. For two years she had suffered from irregular hæmorrhages with pain in the pelvis, which was worse on the left side and at times very severe. She was curetted on March 18th. She was admitted again on August 19th and on Sept. 9th vaginal hysterectomy was performed. The broad ligaments were tied on each side with silk. The appendages were left. There was subsequently a little suppuration at the apex of the vagina, but the patient did well and left the hospital on Oct. 25th. The uterus was large and very thick, its walls measuring fully an inch across. It was examined microscopically by Dr. S. Macdonald, who reported that the glands were enlarged and increased in number and that the connective tissue was increased in quantity. The condition was therefore one of hypertrophic glandular endometritis.—Mr. George Heaton showed three specimens of Bronchocele removed during the last two months. The first specimen was the right lobe and isthmus of an enlarged thyroid removed from a woman, aged 25 years. The specimen was a true parenchymatous bronchocele. Mr. Heaton had some years ago removed a bronchocele from the neck of the patient's mother. The second specimen was the right lobe and isthmus of the thyroid removed from a patient, aged 34 years. For some time past the tumour had completely prevented her from lying down when asleep and occasionally it brought on attacks of suffocative dyspnœa. The specimen was a colloid goitre, the cells lining some of the spaces showing rapid proliferation. The third specimen was a well-marked cystic bronchocele. It consisted of the right lobe and isthmus of an enlarged thyroid removed from a woman, aged 21 years, who had noticed an enlargement in her neck for three years which had latterly increased rapidly in size. The largest cyst in the tumour measured two and a half by one and a half inches. All the patients made good and rapid recoveries. It is noteworthy that they all came from the neighbourhood.—Mr. Priestley Smith read a paper on the Importance of Early Treatment in Strabismus.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—The first ordinary meeting of this society for the present session was held on Nov. 1st, Dr. H. Michie (the President) being in the chair.—Dr. Michie delivered his presidential address on the subject of Puerperal Sepsis, under which term he included all those diseases of the puerperium having for their essential cause the various pathogenic micro-organisms, staphylococci and streptococci, including all but a few rare exceptions. Though much importance had lately been attached to the bacillus communis coli in its relation to septic peritonitis he still believed that streptococci were the prime agents in the production of puerperal peritonitis. After drawing attention to the anatomy of the endometrium, the lymphatics, and the blood-vessels of the uterus and the parturient canal, and their importance in reference to the beginning and spread of septic disease in the lying-in woman, he went on to discuss the conditions which favoured septic infection, the sources of infection, and the means to be adopted for its prevention. The conditions which favoured septic infection were everything that provided suitable soil for the growth and development of bacteria—e.g., necrotic tissue, blood-clot, retained placenta or membranes being the most suitable and frequently provided soil, and mechanical injury the most potent in its production. This question of soil and its production the President considered was worthy of far more attention than was generally given to it. The most obvious sources of infection, and those they might reasonably hope to have to a large extent under their control, were the patient's own body, the obstetrician's hands and appliances, and the bedding and articles of clothing; and besides the avoidance of rough and frequent use of instruments and constant vaginal examinations he would place attention to these as being the most important step in the whole art of midwifery. To his mind, therefore, the indications for the prevention of puerperal sepsis were perfectly plain—viz., "avoid rough and frequent handling and keep the patient's body and your own hands and appliances clean." Just as every good surgeon attended to the cleansing of the field of his operation, so should the obstetrician pay attention to the cleanliness of the patient who was about to be confined, special pains being taken to cleanse the external genitals, and for this purpose nothing answered better than scrubbing with soap, soda, and hot water. Though the President did not consider that a final washing with an antiseptic solution added much or anything to the patient's safety he saw no objection to its employment externally. He, however, considered that none of the disinfectant solutions in common use were altogether free from objection when they were used for douching, &c., inasmuch as all of them produced more or less necrosis of tissue and thus favoured the growth of organisms. The obstetrician's hands were to be cleansed in the same way, and his instruments sterilised by boiling in a strong solution of soda; the bed-linen, both under and over the patient, should be fresh from the laundry, and all napkins and other dressings should be sterilised. Beyond as near an approach as possible to absolute cleanliness of the external genitals convalescence should be left as much as possible to nature. He believed that any elaborate system of douching and swabbing before, during, or after delivery was likely enough to give rise to the very diseases which they were intended to prevent. In referring to the treatment of the various forms and degrees of puerperal sepsis the President confessed that in its worst forms, when there was septic metritis and the lymphatic spaces and vessels and the uterine sinus were crammed with streptococci, the disease quickly spreading to the peritoneum, he knew of no treatment that was of any avail. Any operative interference was certainly worse than useless. Often, however, cases of septic infection were limited chiefly or entirely to pieces of retained placenta or membrane or decidua, when the removal of these septic tissues would in 19 times out of 20 cure the patient at once. Digital exploration of the uterus should always precede any employment of a curette or similar instrument.—At the conclusion of the President's address the subject was thrown open for discussion, nine members taking part, and subsequently a vote of thanks was accorded to the President for his able address.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 9th, the President, Dr. Burgess, being in the chair.—Mr. Simeon Snell introduced the following cases:—1. A young woman who had been the subject of Tuberculosis of the Ocular Conjunctiva, illustrating the value of Treatment by Lactic Acid. 2. A similar case in a young woman in which the Left Upper Eyelid (inner surface) had been chiefly affected. This case also was treated by lactic acid. 3. A young woman with Double Papillitis associated with Incomplete Palsy of both External Recti. Vision was hardly affected. 4. A man with Bilateral Palsy of the External Recti (no optic neuritis) with symptoms of Ataxic Paraplegia coming on after Influenza. 5. A man with a fragment of Steel embedded in the Left Lens.—Mr. Simeon Snell also exhibited a number of lantern slides from photographs taken at several large works bearing on the Causation and Prevention of Eye Accidents in Trade, and made brief remarks. This subject Mr. Snell dealt with in his address as President of the Section of Ophthalmology at the recent meeting at Portsmouth of the British Medical Association and the same lantern slides were then exhibited.—Dr. A. J. Hall read notes of a case of Asthenic Bulbar Paralysis. The patient, a married woman, aged about 42 years, began with symptoms of general weakness, was easily tired on slight exertion, and could hardly hold a teacup. This was in November, 1896. One day she fell down in the house, her legs giving way altogether. About two months after this slight ptosis, especially in the left eye, was noticed; there was also some ocular paresis, variable in amount and difficult to estimate. The

patient was apparently free from this in the mornings, but as the day went on her symptoms got worse. Except for this muscular weakness there was no evidence of organic nervous disease. Weir-Mitchell treatment was tried and the patient improved greatly during a few weeks, but after a somewhat profuse menstrual period she relapsed and new symptoms were added, notably a nasal twang in the voice, occasional attacks of dyspnœa, and some difficulty in swallowing. One day, some six months from the commencement of her illness, she suddenly became ill whilst drinking some soup; she gradually lost consciousness and died from failure of the respiratory centre a few hours later. At the necropsy nothing abnormal could be found in the brain, the pons, or the medulla oblongata. Portions of these were preserved and examined with great care, but no evidence of disease in the nerve cells, the fibres, or the interstitial tissue was discovered.—Dr. W. N. Barber read notes on 22 cases of Poisoning from Tinned Corned Beef which occurred in Sheffield on Oct. 11th. All who had partaken of the meat suffered, but especially the children, of whom there were 12. The amounts eaten varied from a piece of the size of a hazel-nut to a quarter of a pound in weight. The symptoms came on usually about two and a half hours after eating the meat. The onset was marked by drowsiness and giddiness followed by headache, abdominal pain, profuse vomiting, and diarrhœa. Collapse was a prominent feature in the majority of the cases. The treatment consisted in washing out the stomach, repeatedly if necessary, and giving stimulants and purgatives. One patient died, convulsions occurring before death. Post mortem hæmorrhagic erosions were found in the stomach wall, with a general hyperæmia of the gastro-intestinal tract. All of the other cases convalesced rapidly.—Dr. J. Robertson described the meat as being well cooked and as having a faint, sweetish odour. The bacillus enteritidis of Gärtner was found in all the cultures. This bacillus was the active cause in all the similar reported outbreaks. In this case Dr. Robertson thought the active toxin had been introduced with the meat.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of the Microscopical and Pathological section of this institution was held on Nov. 9th, Mr. F. T. Paul being in the chair.—Professor Paterson gave a lantern demonstration of a beautiful series of micro-photographs illustrating the Various Stages of Fertilisation and Segmentation in the Ovum of Echinus esculentus. The photographs were made by Dr. Bryce of Glasgow.—Dr. John Hay demonstrated by means of pathological and microscopical specimens and by drawings and the lantern a case in which there was a large Pedunculated Thrombus, one and three-quarter inches long, hanging from the septum ovale into the left auricle. There was also extreme mitral stenosis and during life marked presystolic pulsation four and a half inches to the right of the middle line.—Dr. J. H. Abram showed a Dysenteric Abscess of the Liver ruptured into the pericardium.—Dr. T. B. Grimsdale showed a Uterine Fibroid which was found free in the Peritoneal Cavity.—Mr. G. P. Newbolt showed a well-marked specimen of Multilocular Cystic Epithelial Tumour of the Lower Jaw removed from a woman, aged 66 years, which had been growing for 20 years. The cysts varied in size from that of a pea to that of a small orange.—Mr. F. W. Bailey showed an Ascaris Lumbricoides which had been vomited by a healthy young woman, 25 years of age. The specimen had been prepared so as to demonstrate the internal anatomy of the worm.—Mr. Keith Monsarratt showed (1) the Organs of a Bitch affected with Carcinoma Mammæ, which had been prepared by Jore's method and retained their natural colour excellently; and (2) Microscopic Specimens of the same.—Dr. J. E. Gemmell showed a Hydatid Cyst which he had removed from the omentum of a patient and he demonstrated its structure microscopically.—Dr. R. J. M. Buchanan showed some very fine specimens of Large Plasma Granule Cells from the Wall of the Rectum.—The Secretary (Mr. F. C. Larkin) showed for Dr. Nathan Raw: 1. The Calvarium of a Woman 60 years of age, showing very extensive Syphilitic Necrosis externally. Internally the whole of the necrosed area was covered by a thick gummatous mass. The patient had no symptoms during life. 2. An Aneurysm of the Renal Artery.—Mr. Paul showed microscopical sections of an eight-weeks Human Embryo.—A considerable discussion followed.—Mr. Paul strongly advocated the view that cystic tumours of the jaw are developed from epithelial tooth remains.—Dr. Abram, Mr. Keith Monsarrat, Dr. Buchanan, Professor R. W. Boyce, Mr. Newbolt, and Dr. Hay also entered into the discussion.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—At the ordinary meeting of this society held on Nov. 9th Mr. J. Chadwick gave the presidential address on the Prevention of Tuberculosis. He said that the death-rate from phthisis had diminished by one-third during the last half-century owing chiefly to increased powers of resistance. The chief sources of infection were dried sputum, tuberculosis, milk, and tuberculous meat. The President referred especially to recent researches on tuberculosis in cattle which proved (1) the reliability of the tuberculin test; (2) the value of separating tuberculous animals from those which did not react to tuberculin; and (3) the inadvisability of breeding from unsound animals. He pointed out the prevalence of tuberculosis in wild rabbits, ascribing it to their living in burrows necessarily containing little fresh air. Farmers now were ventilating cowhouses because they found it to their advantage, and one farmer had almost abolished losses from tuberculosis by attention to ventilation. In a series of experiments with tuberculin it was found that 90 per cent. of cows kept continually indoors reacted, whereas in a herd kept out-of-doors from May to December, and as much as possible out during the winter months, 3·6 per cent. reacted, and in two herds kept out-of-doors all the year round none reacted. With regard to tuberculous milk the President pointed out that milk was infected only where the udder was tuberculous, and that although diseased udders were common tuberculous udders only existed to the number of about 4 per cent. He proposed, as a cheaper measure than the condemnation of all tuberculous cows and a measure equally effective, that there should be compulsory notification of udder disease, that all such cows should undergo the tuberculin test, and that those which reacted should be stopped from supplying milk for sale. Cows with general tuberculosis soon ceased to give milk. Contracts for the supply of milk to institutions should only be accepted from dairies where the cows were periodically subjected to the tuberculin test.—Mr W. Stanwell strongly protested against the custom of using the sweepings of factory floors for bedding in cowhouses on the ground that such sweepings must frequently contain dried tuberculous sputum.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Nov. 17th, the President, Mr. A. W. Galloway, being in the chair.—Mr. Reginald Brown read a paper on the Importance of Early Recognition and Removal of Naso-Pharyngeal Adenoids. He held that the results of adenoids were widespread, enumerating as constitutional symptoms delicacy, anæmia, and want of vigour; brain symptoms were restlessness or terrors at night, mental dulness, and reflex neuroses; the spinal cord symptoms were enuresis and nocturnal incontinence; the ear symptoms were otitis media (simple or suppurative), ear-ache, chronic dry catarrh, deafness, and tinnitus aurium. In the nose there were undeveloped nasal cavities and rhinitis; in the lungs there were bronchitis and broncho-pneumonia; in the chest-walls there was pigeon breast or the sulcus of Harrison; and the lymphatics showed cervical adenitis and enlargement of especially the glands at the angles of the jaw. The relative importance of the above as determining operation Mr. Brown gave as: (1) deafness; (2) otitis media; (3) obstructed respiration; (4) attacks of sore-throat; (5) cervical adenitis; (6) mental dulness and other brain signs; (7) delicacy and anæmia; and (8) rhinitis. If any symptoms of this category were present operation should be undertaken but not otherwise.—Dr. B. G. Morison said that, excluding otorrhœa and a greater liability to diphtheria, he had not seen very bad consequences from the presence of naso-pharyngeal adenoids.—Mr. H. J. Waring alluded to the occasional occurrence of retro-pharyngeal abscess and empyema of the antrum of Highmore with naso-pharyngeal adenoids. He preferred to remove the growths by a cutting forceps passed through the nose while the left forefinger pressed them within the forceps.—Mr. Brown replied.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Nov. 13th, Dr. T. Barr, the President, being in the chair.—The President showed (1) a deaf mute, aged about nine years, on whom he had performed Stacke's Operation for Chronic Middle-Ear

Suppuration and he had also relieved an extradural abscess in the neighbourhood of the sigmoid sinus; and (2) a man in whom Stacke's Operation had been Performed and secondarily (by Dr. J. H. Nicoll) the whole of the lateral sinus cleared out after ligating the internal jugular vein in the neck. Septic pneumonia, pulmonary abscess, and gangrene had complicated the case.—Dr. J. Finlayson, Dr. A. Robertson, Dr. J. A. Adams, and Dr. J. H. Nicoll took part in the discussion on these cases.—Dr. Alfred Young showed a patient, aged five years, in whom a Nævoid Growth occupied the left temporal region and the left upper eyelid so that the eye could not be opened. The skin was not implicated.—Dr. D. Fraser (Paisley) showed specimens from a case of Thrombosis of the Superior Mesenteric Vein characterised by fatal hæmorrhage from the bowel. The patient had had rheumatic fever three years previously and had also suffered from endocarditis. The spleen showed evidences of old infarctions.—Professor McCall Anderson and Mr. A. E. Maylard commented on the absence of a symptom usual in such cases —viz., severe pain about the umbilical region.—Professor Muir showed: (1) A specimen of Calcifying Spindle-celled Sarcoma of the Humerus involving the upper two-thirds of the bone and of only six weeks' known duration; (2) three specimens of Tuberculous Pericarditis; and (3) Microscopic Specimens showing Weigert's Method of Staining Yellow Elastic Tissue.

Reviews and Notices of Books.

Archives of Neurology from the Pathological Laboratory of the London County Asylums, Claybury. Edited by F. W. MOTT, M.D. Lond., F.R.S., Director of the Laboratory and Pathologist to the County Asylums. With many Illustrations. Printed for the London County Council, and published by P. S. King and Son, London. 1899. Pp. 550. Price 15*s.* net.

BOTH Dr. Mott and the Asylums Committee of the London County Council are to be heartily congratulated on the appearance of this magnificent record of research. It will be remembered that when the asylum at Claybury was built it was decided by the Asylums Committee to erect and equip a laboratory for neurological research. To Dr. W. J. Collins credit is particularly due for this departure and he contributes a short preface giving an account of the foundation of the laboratory. No less than £4800 were spent on building the laboratory and thoroughly equipping it. The London County Council was most fortunate in securing for its first director so able a pathologist and clinical observer as Dr. Mott. He has not only carried on original research of the highest practical and scientific value, but has infected others with his enthusiasm and has collected at Claybury a group of distinguished pathologists the result of whose labours is given in this first annual volume of the Archives.

The first half of the volume is occupied with a consideration of the relation of syphilis to organic brain disease. Part I. of this paper deals with gross disease—gummata, meningitis, thrombosis from syphilitic endarteritis, &c. The clinical features of the various forms, the differential diagnosis, and the morbid anatomy are described with much skill. Dr. Mott holds that gross syphilitic disease is often overlooked and that many such cases, believed to be instances of epilepsy or of general paralysis, might, if diagnosed early, have been amenable to appropriate anti-syphilitic treatment. This section is an admirable clinical monograph and of importance to all physicians and not merely to alienists.

The second part of Dr. Mott's article is called "Observations upon the Etiology and Pathology of General Paralysis." Although Dr. Mott does not consider it absolutely proved that syphilis is an invariable antecedent of general paralysis he thinks that the evidence is in that direction. In support of this contention he advances the absence of general paralysis in countries where syphilis is unknown, its rarity among women of the better classes, while those in the lower ranks suffer more frequently from both diseases, and the frequency with which, in his experience, a definite history of syphilis is to be obtained. In this Dr. Mott is in accord with most continental observers. The experience of asylum superintendents in this country is often quoted against this view, but Dr. Mott thinks that this is because sufficient care is not taken in inquiring into the patient's history and because syphilitic residua in other parts are often overlooked. Recent inquiries at Claybury and Rainhill Asylums strongly support the contention that syphilis is an antecedent of general paralysis in the majority of cases. Another proof, he urges, is the frequency with which definite congenital syphilis has been present in the cases of juvenile general paralysis, of which no less than 22 are recorded in the Archives. Dr. Mott also maintains that "general paralysis and tabes are, pathologically speaking, the same disease affecting different portions of the nervous system"—a doctrine which is certain not to pass unchallenged. There is an interesting account of the pathology of the disease, in which Dr. Mott refers to his previous research on the presence of cholin in the blood and cerebro-spinal fluid of general paralytics as a result of degeneration of cerebral tissue. This cholin, he believes, causes thrombosis of small veins, and this thrombosis is the cause of the epileptiform seizures. This monograph is followed by a number of papers giving a detailed account of researches the results of which have been utilised by Dr. Mott in the papers which we have dealt with. Mr. Howard Green has examined the blood of general paralytics; Dr. J. O. Wakelin Barratt has estimated the amount of water and phosphorus in the brain; Mr. H. W. Lewis relates the result of a careful Inquiry into the Frequency of Syphilis as an Antecedent; Dr. Mott describes 22 cases of Juvenile General Paralysis, a larger collection than has hitherto been described by any writer; Dr. Mott and Dr. Hamilton Wright describe Degenerative Changes in the Posterior Spinal Ganglia in a case of General Paralysis with Bullous Eruption; Dr. Wakelin Barratt has a report on the Condition of the Vagus and Sympathetic Nerves in General Paralysis; and Dr. Hamilton Wright gives an account of his Examination of the Tangential Fibres of the Inferior Frontal Convolution on Both Sides in 16 Cases of General Paralysis.

In addition to this group of papers detailing an enormous amount of original research on the subject of general paralysis there are papers relating to other neurological subjects:—Observations on the Chemistry of Nerve-Degeneration, by Dr. Mott and Dr. Barratt; a Case of Amyotrophic Lateral Sclerosis, with Degeneration of the Deeper Layers of the Cortex, by Dr. Mott; Combined Sclerosis with Grave Anæmia, by Dr. Mott; Changes in the Posterior Root Ganglia of Tabes, by Mr. Salaman; Preliminary Observations on the Etiology of Asylum Dysentery, by Dr. H. E. Durham, in which he believes he has traced the cause to an extremely small micrococcus; Three Cases of Tumour of the Third Ventricle, by Dr. Mott and Dr. Barratt; Telangiectasis of the Left Frontal Lobe, by Mr. Cecil Beadles; Three Dissimilar Cases of Multiple Lesions of the Central Nervous System by Mr. A. F. Tredgold; Preliminary Communication upon the Changes in the Brain, Spinal Cord, Muscles, and other Organs in Persons Dying after Prolonged Epileptiform Convulsions, by Dr. Mott, the paper being beautifully illustrated; Alcoholic Atrophy in the Central and Peripheral Nervous System of a Woman, by Dr. Hamilton Wright and Miss Margaret Orange, M.D. Brux.

It will be seen that Dr. Mott and his collaborators have undertaken a wide field of investigation. Not one of the papers deals with subjects that have already been settled, but new and doubtful points have been investigated with great ability and the results recorded in a manner which compels the highest praise. The articles on general paralysis,

particularly Dr. Mott's masterly contributions, constitute a real and solid advance in our knowledge of that terrible affection.

The book is well printed and the illustrations, both coloured and photographic, are excellent. Dr. Mott has produced a volume of which he and the London County Council, whose wise liberality made the work possible, may justly be proud.

The Schott Methods of the Treatment of Chronic Diseases of the Heart. By W. BEZLY THORNE, M.D. St. And., M.R.C.P. Lond. Third edition. London: J. & A. Churchill. 1899. Pp. 132. Price 6*s*.

THE third edition of a work requires but few words from the reviewer as to its scope and general nature. When Dr. Bezly Thorne wrote the first edition of this book Nauheim and its baths were practically unknown in this country and he has therefore done good work in drawing the attention of the profession to a treatment which is admittedly of great value in certain cases of chronic diseases of the heart. Whether the cases which derive permanent benefit from a visit to Nauheim are so numerous as was at one time considered is open to doubt, and still more so is the question of applying the principle in this country. One thing is quite certain and that is, that what is known as the "Nauheim treatment" has not made great advances in England and is practised but by few practitioners. This result, however, must not be taken to indicate that the principle is wrong. In order to secure good results constant supervision of the patient is necessary and this can only be satisfactorily carried out by those who are willing to devote a good deal of attention to details. But even with this proviso we do not think that the treatment of chronic diseases of the heart by the Nauheim and Schott methods has received that amount of recognition from the profession which it would have done had the results been what were (and are still by some observers) claimed for them. Dr. Bezly Thorne is, however, sincere in his attempts to bring this therapeutical measure constantly before the profession. In the present edition old material has been re-arranged and new material introduced in such a manner as to present two additional chapters, of which one deals more especially with conditions which should influence and modify the details of procedure, while the other offers instances of their application and calls attention to features scarcely alluded to in the earlier issues, more especially to the institution of vascular repair.

In the first-named chapter some useful hints are given as to the care and judgment which should be exercised in the treatment of those patients in whom an impediment lies between the pulmonic and systemic circulations, such as in bronchial catarrh, asthma, &c. Quite rightly, also, warning is given that the state of the vessels should be carefully noted and due modifications of the length and strength of the baths and the amount of the resistance in giving the exercises should be introduced in accordance with the physical conditions found to exist.

We doubt the advisability of publishing the radiograms professing to show difference in the size of the heart's shadow before and after the exercises. They will probably carry conviction to no one.

We wish, also, that Dr. Thorne had given some instances in which comparisons had been made before and after the baths and exercises between the number of beats of the heart as taken by auscultation over the chest and the rate of the pulse as found at the wrist. From the observations of certain physicians we believe that errors have in this way arisen and that the reduction of the pulse was only apparent, a number of feeble cardiac contractions not making themselves apparent in the radial artery.

Practitioners who desire to make themselves conversant with the principles involved in the "Schott" treatment cannot do better than consult this book.

Bacteria: especially as they are related to the Economy of Nature, to Industrial Processes, and to the Public Health. By GEORGE NEWMAN, M.D., F.R.S. Edin., D.P.H., &c., Demonstrator of Bacteriology in King's College, London. (The Progressive Science Series.) London: John Murray. 1899. Pp. xvi.–351. Price 6*s*.

THE excellence of the Progressive Science Series is already becoming well known, and we have no hesitation in ranking this work with those volumes which have gone before it. It is not to be criticised as an ordinary text-book, for it is an endeavour to set forth our present knowledge of bacteria in popular form and without too much technical detail. The task is by no means an easy one, but Dr. Newman has accomplished it in a very creditable manner. Anyone with ordinary intelligence and some acquaintance with science in general can gather from this book a very fair and a reasonably accurate knowledge of the main facts and principles of modern bacteriology. The author has taken pains to bring his facts well up to date and we note repeatedly in his pages references to the most recent work on the various branches of the subject.

The first chapter deals with the General Biology of Bacteria and is a lucid and well-written account. We must dissent, however, from the statement that metachromatic granules are necessarily signs of degeneration, and Dr. Newman seems in error in ascribing to the sheath of bacteria in general a cellulose nature, since that substance is rarely present. The chapters which succeed this are devoted to the bacteria of water, air, and soil, and to the nature of fermentation, and we are inclined to regard these as the most successful parts of the book. The account of nitrification and allied processes in the chapter on Bacteria in the Soil is of particular clearness and excellence. We regret to see on p. 55 the expression "B. termo" used in a specific sense, since it has no longer any such significance, and we would also call attention to an obvious misprint on p. 66, where in the account of Van Ermengem's process for staining flagella it is recommended that a 25·5 per cent. solution of silver nitrate should be used; it should be from 0·25 to 0·5 per cent. Nor in this process have we tried boric acid in the initial mordant; osmic acid is usually employed, as originally recommended by Van Ermengem. We also note a reference to the "Finkler-Prior comma of cholera nostras"—a disease with which the said comma has long been known to have no connexion. Protest must further be made against the statement on p. 71 that the parallel arrangement of the comma bacilli in the flakes of cholera dejecta, described by Koch as the "fish-in-stream" grouping, is so characteristic as to suffice alone for diagnosis. It is a mechanical phenomenon shown equally by other organisms in similarly prepared films and might be given equally by other vibrios if they were numerously present. It is easy enough to pick out individual errors of this description and it is natural to do so from a medical point of view, but we would by no means be understood to think ill of this part of the book as a whole, for, as we have said, it appears to us to be of great excellence. But we cannot pass by such a statement as that on p. 81 that moist heat at the boiling point maintained for five minutes will kill all bacteria and their spores. This is not correct. The spores of some races of anthrax will resist boiling for five minutes and those of Klein's bacillus enteritidis sporogenes and Botkin's bacillus butyricus will resist boiling for even longer periods.

The chapter on Bacteria in Milk and other Foods is as fully

and thoroughly treated as the importance of the subject requires and the author has evidently consulted all the most recent literature which deals with it. But we may call attention to a discrepancy between the statements on p. 199 that the process of boiling milk for a few minutes deprives it of all danger and that a temperature of 85° C. prolonged for five minutes kills all bacilli, and those on p. 280, where we read that tuberculous matter survives temperatures up to 100° C. and that tuberculous sputum distributed in salt solution does not lose its virulence by being kept at 100° C. for one or two minutes.

To criticise a popular work of this description from a medical point of view is almost as difficult as to write it. This difficulty is particularly great when we approach the concluding chapters of the work which deal with Bacteria in relation to Disease. On the whole the author has done his work here almost as well as in the preceding chapters. What he has written is too little for the pathologist and perhaps too much for the general public; to hit the exact mean is a task so difficult that we must abstain from detailed criticism, merely suggesting that on the whole it might have been better to have avoided a good deal of detail which Dr. Newman has thought fit to include.

The general get-up and printing of the book are beyond praise, though the illustrations and micro-photographs are not always above criticism. But we would repeat, in conclusion, that Dr. Newman has, on the whole, succeeded in producing a popular work on bacteriology which, though it is susceptible of individual criticisms here and there, is nevertheless in the main clear and accurate and deserving of sincere commendation.

New Inventions.

AN IMPROVED CLINICAL CHART.

WE have received from Dr. L. A. Weatherly of Bailbrook House, Bath, an improved clinical chart specially adapted for phthisical cases and used in Hohenhonnef Sanatorium. It is ruled for a period of seven days and for temperatures from 95° to 107° F. The fine ruled surface is 13¾ inches long and five and a half inches wide. The horizontal lines represent fifths of a degree and correspond to the markings on an ordinary Fahrenheit clinical thermometer. The vertical lines represent the 24 hours of the day, those from 6 P.M. to 6 A.M. being indicated by a grey tint and those from 6 A.M. to 6 P.M. by pink. For the sake of distinctness it is recommended that red ink be used in marking the temperature curve. The chart possesses the following advantages:—1. Any hour's temperature may be recorded and seen at a glance; this is important as the temperature varies at different hours in different cases. 2. The twelve hours of night and the twelve hours of day are seen and distinguished at once. 3. The temperature curve can be read either in Fahrenheit or in Centigrade scale without calculation. 4. The pulse-rate and the state of the bowels can be recorded at the times when the observations are made. The methods of ruling and colouring are undoubtedly convenient. The publishers are Messrs. Ferris and Co., Bristol.

THE REPORT OF THE LOCAL GOVERNMENT BOARD FOR 1898-99.

Among the many subjects of medical and general interest touched upon in this volume of 896 closely printed pages the sections relating to pauperism and the Poor-law supply useful material for a short abstract. The work of the Government laboratories in connexion with analyses of food and drugs has already formed the subject of an article which appeared in THE LANCET of August 19th (p. 497). On Jan. 1st, 1899, the total number of paupers of all classes in England and Wales in receipt of relief was 821,096 of whom 230,915 were classed as indoor paupers, 519,608 as outdoor paupers, and 70,715 as insane paupers, including 142 who received both indoor and outdoor relief on that day. As compared with Jan. 1st in the preceding year these figures show decreases of 873 in the indoor and 14,984 in the outdoor paupers. The decrease in the total number of paupers was 15,817, or 1·9 per cent. The total number of paupers amounted approximately to one in every 38 persons. In the appendix 97 pages are devoted to reports of inspectors as to the condition of pauperism and the administration of relief. The reports generally bear testimony to a continued desire on the part of guardians to improve the accommodation and nursing arrangements for the sick and infirm inmates of the workhouses and infirmaries and to ameliorate the conditions under which the children are maintained by sending them out to public elementary schools for education, and in some instances by providing for them in establishments separate from the workhouses. Mr. Lockwood, the inspector for the metropolis, reported that there was no exceptional distress in his district during 1898. There was more or less steady increase in the number of indoor poor, with a concurrent diminution in the recipients of outdoor relief. This increase is to some extent attributable to the superior accommodation, medical attendance, and nursing now provided in Poor-law infirmaries, and there is some evidence for the view that not a few among the annually increasing numbers in the infirmaries are recruited from a class far removed from destitution. There was in the metropolitan workhouses and infirmaries, taken as a whole, a very narrow margin of spare accommodation. The gross cost of the relief of the poor in England and Wales during the year ended at Lady Day, 1898, was £10,828,276, which is greater than that recorded in any previous year. It represented an average charge of 6*s.* 11½*d.* per head on the estimated population, being 2½*d.* per head more than in the preceding year. The admissions to the Metropolitan Asylums Board Hospitals in 1898 were 21,063 in number, classified as 12,125 of scarlet fever, 6566 of diphtheria, 869 of enteric fever, nine of typhus fever, five of small-pox, and 1489 of other diseases. The expenditure of this Board for the year ending Oct. 1st, 1898, was £719,128. During 1898 the Metropolitan Association for Befriending Young Servants had under their supervision 2779 girls from Poor-law schools and 165 from Roman Catholic certified schools. Reports on almost all these girls were received by the Association; 1514 of them were classed as girls "who throughout the year have been spoken of as satisfactory in conduct and work," and 702 as "those against whom no serious faults have been alleged." A table is given showing the total number of the Poor-law officers of the principal classes, together with the number of such officers who during the year resigned on account of irregularities or were dismissed; the results are as follows:—Total numbers: clerks, 671; chaplains, 585; medical officers, 4566; masters of workhouses, 784; relieving officers, 1628. Number of resignations or dismissals: clerks, two; chaplains, two; medical officers, eight; masters of workhouses, five; relieving officers, three.

CARDIFF INFIRMARY.—At the meeting of the committee of the Cardiff Infirmary held on Nov. 15th under the presidency of Dr. W. T. Edwards it was decided, owing to the unsatisfactory state of the financial position of the Cardiff Infirmary, that the women's ward should be closed on Nov. 30th. It is estimated that by closing the ward about £1172 will be saved annually, but it is hoped that increased subscriptions will permit of the re-opening of the ward at an early date.

SENTENCE ON A MIDWIFE.—At the Breconshire and Radnorshire Assizes held recently at Brecon a midwife surrendered to her bail on a charge of feloniously killing and slaying a woman at Hay on July 9th. The evidence showed that the prisoner while attending the woman in her confinement was much under the influence of drink and would not consent to a medical man being fetched. Eventually a medical practitioner was called in unknown to the midwife; he found the patient in a state of collapse from loss of blood and she died shortly afterwards. The jury returned a verdict of guilty and a sentence of three years' penal servitude was passed.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 25, 1899.

THE General Medical Council will begin its winter meeting on Tuesday next, the 28th inst. It is satisfactory to know that there will be no change in the *personnel* of the Council and that the premises are now completed and much more commodious than before. It remains to be seen whether the faults of ventilation in the Council Chamber which were much complained of at the last meeting and the defective accommodation for reporters have been remedied by the labours of a committee then appointed to consider such matters. In the absence of the actual programme it is not possible to say upon what subjects the Council will spend its time, but we know enough of the matters which it left unfinished at the last meeting to be able to give some forecast of the principal topics that will call for attention. We need only enumerate a few of the subjects which stand over for consideration at the approaching meeting to show that the Council has work enough for several days and problems of no little difficulty to deal with. The most prominent of these are the report of the Education Committee on the raising of the standard of preliminary education for students entering the profession, the state of the law regulating the registration of deaths, the disciplinary functions of the medical authorities, the report of a committee on dispensing by medical men, the report of a committee on the best means of preventing personation in applications for registration, reciprocity of practice with foreign countries, the recovery of fines under the Medical Acts within the metropolitan area, and the dispute between the Royal Colleges of England and the General Medical Council as to the right of the Council to claim to be satisfied as to the efficiency of any institution for teaching science. This is a pretty long list of very difficult questions, and it does not embrace penal cases which are likely to occupy at least two days of the Council's time.

Let us take, for example, the question of reciprocity of practice. This subject is forced upon the attention of the Council from various quarters. Our fellow practitioners residing abroad, and threatened with, or actually overtaken by, legislation that is meant to prohibit them from practising in foreign parts, complain of hardship, and appeal to our Government and to the General Medical Council to help them to get their British qualifications recognised. On the other hand, as the correspondent of THE LANCET writing from Rome lately pointed out the Prime Minister of Italy, General PELLOUX, has recently received an influential deputation of Italian medical men whose object it is to prevent medical practitioners of foreign nationality practising in the Italian Kingdom, and he has assured them of "favourable consideration" for the object which they have in view. He further assured them that he had sent to all the Foreign Powers a circular asking them whether they would allow Italian practitioners possessing only native diplomas to practise in their respective countries. The General Medical Council sees difficulties in the recognition of diplomas from bodies of which it knows little and over whose curriculum of study and examinations it has no control. One suggestion of compromise made by those who see such difficulties was that it might be possible to admit foreigners to practise among their own compatriots in this country. But Mr. MUIR MACKENZIE has advised the General Medical Council that there is no sanction for such restriction under the seventeenth clause of the Act of 1886 and that the diplomas of any foreign country recognised under this Act must be recognised as giving full rights of practice. The Executive Committee are charged with the duty of indicating to the Government the difficulties which surround the question. We may be sure that we have not heard the last of a question which is bound to recur with the increasing intercourse of nations. The General Medical Council is referred to by the Government for its judgment on such questions and it will not dispose of them by simply pointing out that it cannot supervise medical education and examinations in foreign countries. A statesmanlike and well-considered reply will be expected of it.

Probably the most important question to be considered by the Council is that of the standard of preliminary education. Much interest will attach to the report of the Education Committee on this subject, which will doubtless include the opinions of three experts whom the Committee were empowered to consult on the subject. Previous discussions have been more or less frustrated by the want of the expert element and by the natural resentment of bodies the adequacy of whose examinations was questioned. It may now be hoped that the Council will see its way clear to make a very material advance in the standard without making any fine distinctions between examinations of similar stringency. Another question of very great interest to medical men is that of dispensing. It would be a serious thing for the Council to relieve the practitioner of the responsibility of seeing to the efficiency of the dispensing part of his practice, and it will be scarcely less so to impose upon him the obligation of providing a qualified dispenser. We, in the United Kingdom, seem still far away from the time when the practitioner will be able to leave all pharmacy and dispensing to chemists, or when it will be possible to release the practitioner from the duty of acquainting himself with the properties of the drugs which he prescribes and with the art of dispensing them neatly and safely. The supplying of medicines is a very essential part of medical practice and in poor districts and in country and remote places the practitioner's surgery is the only source to which patients can look for the medicines which they require. Still, it is essential that this part of a practitioner's work should be done well and the committee which the General Medical Council appointed to report on this subject will do good service if it can make suggestions for improvement in the present state of affairs.

THE proceedings of the fifteenth annual meeting of the Royal College of Surgeons of England were by no means devoid of interest, though they were less exciting than on

some previous occasions. The possession of the chair by the senior VICE-PRESIDENT naturally elicited a reference to the PRESIDENT'S patriotic action in consenting to take service under the Government in South Africa. The CHAIRMAN'S announcement that at length the Council had agreed to authorise a gown for the Members for use on ceremonial occasions was received with approval. He pointed out that it was intended only for ceremonial occasions and that it was left to the good taste of Members to decide when to wear it. There was perhaps half a suspicion that some Members might be inclined to don it rather too frequently, but it is certainly better to run this risk than to attempt to define a "ceremonial occasion." The burning question of the representation of the Members on the Council formed the subject of the first resolution, which expressed regret that the Council had not taken advantage of the opportunity afforded by the application for a new Charter to grant some representation to the Members. There was much to be said for this view of the subject and many spoke in favour of the resolution. Two members of the Council, Sir THOMAS SMITH and Mr. HERBERT PAGE, expressed their personal approval of granting to the Members some representation, though both thought that the present time was not opportune. The CHAIRMAN repudiated the idea that the Council, when it last took a census of the opinions of the Fellows on the subject, had in any way attempted to influence the Fellows against the suggestion. It is obviously now too late to include any representation of the Members in the present petition for a new Charter, for it is already under the consideration of the Privy Council, but there were at the meeting several indications—and, indeed, the fact is known otherwise—that there is no small portion of the Council which is in favour of this extension of the franchise, and the opposition offered to it by the rest of the Council has not been for some time so strong as it was formerly. These facts are of happy augury and we confidently hope at no distant date to see fulfilled this long-cherished wish of the Members. The next step is undoubtedly a fresh census of the opinions of the Fellows and this may be taken before long, for more than two years have elapsed since the last census.

The second resolution dealt with the very important subject of medical aid associations which are eating the very life out of the practice of many medical men in various parts of the country. The Council hesitates to declare illegal any connexion with these associations, for it says in effect that these bodies, or most of these bodies, are registered under the Friendly Societies Act and that it is anomalous to declare to be illegal a connexion with a legal association. We are sure that the Council is trying to do its best, but we consider that it is unnecessarily modest with regard to the extent of its powers. Let it make a general pronouncement such as is asked for and let it deal severely with any case brought before it and we venture to think that it will hear nothing of any accusation that it is acting *ultra vires*. The good it would do is very great and the risk is extremely small.

The third resolution related to the Midwives Bill and expressed the hope that the Council would oppose any Bill for the legal recognition of midwives.

The last resolution was moved by Mr. W. H. DAY and it requested the Council to send notice of the annual meeting with a copy of the annual report to every Fellow and Member. The chief difficulty lies, we presume, in the expense. There are about 18,000 Fellows and Members in Great Britain and Ireland and the expense of sending notices to all of them would be by no means small. Still we think that the Members have a fair claim to this notice and we hope that the Council will do its best to meet the wishes of the Members.

The general tone of the meeting was distinctly less acrimonious than at any previous meeting which we remember, and the amelioration of the feeling shown and the expressions used was very marked. We hope that brighter days are dawning for the moderate and necessary reforms in the constitution of the Royal College of Surgeons of England which we have so long and consistently advocated.

THE Conference on the politics of our profession which took place at Newcastle on Wednesday evening last, Nov. 22nd, marks to some extent an era in medical affairs. The Direct Representatives of the medical profession on the General Medical Council have been in the habit of addressing their constituents when asking for their suffrages, and from time to time in the Council Chamber, in our columns, and elsewhere they have expressed their views upon such questions as appeared to them to be of moment in the professional world. But the Conference at Newcastle is the first occasion on which the Direct Representatives of the profession in England and Wales have all three appeared on the same platform with the view of reporting progress and of giving, and, perhaps, of receiving, instruction, and it forms an important departure in medical politics. The object of the meeting was to provide an opportunity for the laying together of the heads of a section of the constituency and of their representatives, so that a definite line may be taken in the Council upon certain vexed questions. The Direct Representatives could learn what a section of their constituency required, and the mass of medical practitioners would know from their addresses how far the views of the Direct Representatives jumped with the ideas of the constituency, how far these views were united, and what chance there was of practical effect being given to them at the Council board of the General Medical Council.

Our readers have before them (see page 1474) the speeches of Mr. VICTOR HORSLEY, of Mr. GEORGE BROWN, and of Dr. GLOVER, so that they are able to form their own opinion as to the value of the Conference and of the views shown by each gentleman. Mr. HORSLEY is characteristically thorough. "Our unfortunate profession," he says, "is doubly governed by a series of small oligarchies who regard themselves as entirely irresponsible to the great body of practitioners, their colleagues in the profession they have the honour to belong to." There is, in our opinion, some truth and some exaggeration in this description of the General Medical Council, but

with commendable clearness Mr. HORSLEY gives the reason for his contemptuous estimate of a body which has done good work; and our readers can make up their minds for themselves how far he proves his case. The most important passage in Mr. BROWN'S sensible address is his advocacy of the "One-Portal System." We have for over 70 years in THE LANCET consistently taken the line that a medical man discharges his public and private relations as a medical man, and not as the holder of a degree or diploma. It is bad when the public attempt to distinguish between the doctor of this or that university and the licentiate of this or that corporation, but it is very bad if these invidious views take root in the medical profession itself. We have always held, and to do so is a tradition from the Founder of this journal, that there should be one recognised method of entering the medical profession. Over and above this method it should be open to every man to obtain whatever distinctions he likes, but his relations to the public and to his colleagues should be governed by the essential fact that he is a medical man and not by the accessory fact that he holds certain qualifications. The oldest of the Direct Representatives, Dr. GLOVER, who has been a Direct Representative on the General Medical Council ever since the principle of direct representation has been conceded, spoke with striking moderation. But we are sure that the members of the profession will see that his desires for reform are as true and as earnest as those of his colleagues, although he does not employ quite so many adjectives. He, like Mr. BROWN, desires to see the unification of the profession—a cementing of the different sections into one body, and an abolition of fine lines of distinction between general practitioners and consultants, between the possessors of licentiateships and the possessors of doctorates.

We have no intention of attempting to dissect the speeches of the three Direct Representatives of England and Wales. These gentlemen speaking to the Newcastle Conference were really addressing the whole of their enormous constituency and have the right to be heard through their own mouths and not through our interpretation. In conclusion, we would add that the Conference should be of the greatest possible value to the medical profession. It is the most important attempt that has been made, at any rate during the last 50 years, towards a consensus of opinion upon what things are needed by the medical profession and what steps should be taken to obtain them.

CAMBRIDGE UNIVERSITY. — The examinations for Medical and Surgical Degrees (Michaelmas Term, 1899) will commence on Monday, Dec. 11th, for the first and second examination. The names of candidates should be sent to the Registrary (through the Prælectors of their respective colleges) on or before Tuesday, Nov. 28th. The names of candidates for the third examination for the degrees of M.B. and B.C. must be sent to the Registrary on or before Wednesday, Nov. 29th. Candidates who are members of the Senate may send their names to the Registrary direct. All other names must be sent through the Prælectors of the respective Colleges.

Annotations.

"Ne quid nimis."

ENTERIC FEVER IN LONDON.

EXPLANATION is much needed with regard to the exceptional prevalence of enteric fever in London at the present time. This prevalence has been especially marked during the last four weeks and has had no precedent since the notification of cases of infectious disease has been obligatory. During the forty-third and forty-fourth weeks of the year the number of cases notified has been actually double the number of cases notified in these weeks in any year since and including the year 1890. The disease does not appear to be limited to any one district, or, indeed, to any group of districts, but to be spread over London. The question necessarily arises whether this increase is due to natural causes, to climatic conditions causing an exaggerated autumnal prevalence, or to infection introduced from without, such as by a polluted milk- or water-supply, or by shell-fish. We do not doubt that this question is receiving the careful consideration of the medical officer of health of the county of London who has already shown that London water-supplies cannot be excluded from the possible causes of enteric fever in the metropolis. But the task of determining what cause is responsible for this prevalence is one of extreme difficulty, and the matter can only be judged by experience of the behaviour of enteric fever in London during a number of years, for it is necessary to determine in the first instance what variations in prevalence can occur and what are due to natural conditions before any conclusion can be come to that the prevalence is due to extraneous causes. There is much need of greater opportunity for the study of enteric fever in England, and it is to be regretted that the amendments to the Notification of Infectious Diseases Bill of this year which were proposed by Sir Seymour King, M.P., had no opportunity of coming before the House of Commons. They would have provided that the county councils should be the recipients of information as to the notification of all cases in their counties and that a department of the State should be the recipient of information as to all cases in England and Wales. Much of the value of the Notification Act is lost owing to the want of some system which would enable the behaviour of infectious disease over wide areas to be accurately studied.

COCKLES AND TYPHOID FEVER.

AN outbreak of typhoid fever at Shoeburyness has recently been investigated by Dr. J. C. Thresh, the medical officer of health to the Essex County Council, and is attributed by him to the eating of uncooked and imperfectly cooked cockles picked from the beach. The sewage of the town, which has a population of about 4000, is discharged on the beach at three points, the principal sewer terminating 300 yards from the shore. Upon the beach cockles are found in considerable quantities when the tide is low and are collected by children and others. Typhoid fever became rife in August and continued through September. About 30 cases occurred altogether, and of these no less than 23 were in one terrace of 10 houses. These houses had been but recently erected and were tenanted chiefly by fresh arrivals in the district. The older inhabitants rarely collect cockles as many previous cases of typhoid fever have been popularly attributed to eating such shell-fish. The men in the garrison also are strictly forbidden to eat any cockles, mussels, or whelks gathered from the beach. In the terrace above referred to the sanitary

arrangements were excellent and the water-supply was above suspicion. All the ordinary causes of typhoid fever were fully and carefully investigated but without result. The possibility of cockles being the cause was then considered. Specimens collected from the beach were submitted to bacteriological examination and the bacillus coli and bacillus enteritidis sporogenes were found in each batch both on the mud adhering to the shells and in the liquid within the shells. This is fairly conclusive evidence of contamination with sewage and as the sewage was specifically infected it is very probable that some contained the bacillus typhosus. With one or two exceptions all the persons who were attacked had partaken of uncooked or imperfectly cooked cockles about the time when they became infected. For example, in one house with eight inmates five contracted typhoid fever, four of the cases being primary and the fifth possibly secondary from personal infection. The family had nearly lived on cockles gathered from the beach, parboiled before use. The three persons not attacked were a lodger and her child, neither of whom would touch cockles, and an infant of four months. Dr. Thresh summarises his reasons for attributing the outbreak to infected cockles as follows: 1. There is no evidence tending to implicate the water-supply. 2. There is no evidence to implicate the milk-supply since this was derived from four different sources. 3. The drainage arrangements are unusually satisfactory. 4. The subsoil is free from polluting matter. 5. Cockles were eaten by nearly all the persons attacked, and these cockles were gathered from sources known to be polluted by sewage. A larger proportion of males than of females were attacked and children suffered more, proportionately, than adults. About one-third of the occupants of the terrace contracted fever. In most of the other cases which occurred in the town the patients were eaters of cockles. Experiments are at present being conducted to ascertain whether the typhoid fever bacillus is destroyed by the process of cooking which is generally adopted. That it does not sterilise the contents of the shells has already been proved and it is very probable that the specific organism may escape destruction. This and the Exeter outbreak prove that other shell-fish besides oysters require protection, and it is to be hoped that all edible shell-fish will be included in any Bill which the Government may introduce into Parliament, if the fate of the Oysters Bill of last session does not deter the Local Government Board from making further efforts in this direction to safeguard the public health.

MENTAL CONTAGION.

DR. RICHARD DEWEY in his presidential address at the Chicago Neurological Society dealt with the above subject. He said that one did not ordinarily think of nervous and mental diseases as contagious or infectious, though they were literally so to some extent. Mental contagion was a potent factor in etiology, for cerebral and mental disorders may be, and often are, conveyed through the influence, direct or indirect, of mind upon mind. For instance, many cases of hysteria and of chorea could be traceable to more or less direct suggestion and imitation, spreading from a single sufferer to an indefinite number of others. The work of mental contagion is accomplished in a number of ways; it is on the one hand direct and immediate, or it may be, on the other hand, slower in its working, involving a period of incubation and gradual evolution. And, again, mental contagion may spread by the process of procreation and inheritance. Examples of direct mental contagion are the epidemics so often recorded in history, especially in the Middle Ages, such as those of flagellation, tarantulism, the dancing manias, and the convulsive epidemics of St. Médard, many of which phenomena continue in modern times. Degeneracy may be considered one of the results of infection, and morbific influences may act on the human ovum or spermatozoon rendering them vehicles for the propagation of nervous and mental abnormalities for generations. This is one of the most serious difficulties in social hygiene which have to be met. Mental contagion in one of its aspects is illustrated by the *folie à deux* of French observers. This malady may often include three or four victims in one house or family, and Dr. Dewey has seen five members of one family affected at the same time. In nearly all cases can be recognised in the subjects of mental contagion a constitutional predisposition, an undue susceptibility to morbid mental and social influences. In considering the question of prevention it is often urged that the sequestration of those capable of propagating nervous diseases and insanity would be justifiable. A more judicious view is that although degeneracy, insanity, and nervous diseases are injurious to-day they are less mischievous than in former times, and that "the best remedy is not sequestration, prohibition of marriage, castration, and the like—measures which are fundamentally impracticable—but the constant effort of physicians and scientific men to enlighten the public mind." A citizen of even moderate intelligence who would resist such compulsory legislative measures would in many cases avoid the penalties imposed by nature if brought to see and realise the malign character of nature's penalties. Although ten men might agree that the right of marriage should be denied in certain cases, or that certain individuals should be emasculated, yet if one of the ten were in this way affected in his own person or family he would set the regulation at defiance, and the courts would probably sustain him in so doing. Human nature objects to being made virtuous "by acts of Congress." In the discussion which followed the presidential address Dr. Sanger-Brown said that although education had gone far enough to eradicate part of the noxious influences alluded to, still the patronage at present bestowed upon "Christian science" and "osteopathy" showed that a considerable susceptibility to mental contagion yet existed among the people. Mankind *en masse* was prone to a peculiar paralysis of the reasoning faculties in certain directions which made individuals commit themselves to a course quite contrary to common sense. This was frequently illustrated by the blind and uncritical enthusiasm which could be aroused in the crowd by the accomplished orator. An individual with sound and well-trained reasoning faculties could never be a genuine victim of this kind of infection, although he might at times be seemingly and momentarily affected by it. In the increasing stresses, strains, and complexities of modern life the tax levied upon individual energy has steadily increased. While some very high types were being developed the process was in other directions terribly destructive, and it was not easy to share the sanguine hopes entertained by some that progress was being made towards conditions of greater comfort and mental security.

NEALE'S DIGEST.

DR. NEALE has brought his invaluable Digest down as far as the first volumes of the medical journals for 1899.[1] The book is indispensable to everybody who wishes to look up references upon medical subjects either for literary purposes or as aids to professional work. The use of Neale's Digest connotes access to a reference library but most of the large provincial towns of the United Kingdom, as well as the capitals and the big medical societies, now possess such a library. We can say for ourselves that we have rarely, if

[1] Neale's Digest, 1840-1899. Third edition with appendix. London: John Bale, Sons, and Danielsson, Limited. 1899. Pp. 1055 and indices. Price 25s. 6d.

ever, known the Digest to fail to give the information we have sought in its pages, and our frequent quotations from it for the benefit of our readers show its worth. We have often wondered why correspondents write to us asking us questions the exact answers to which will be found in so well-known a volume. In an out-of-the-way part of the country we can understand the practitioner deciding that the possession of an index to literature which he cannot consult is of no practical use to him; but where files and bound volumes of all good medical periodicals can be perused—as obtains in every big town in the land—no medical man will regret the purchase of a Digest. Armed with it he is master of all possible information on medical literature, and by looking out his references for himself he will spare us trouble (which we do not grudge) and he will have the pleasure at the same time of feeling that he is making some return to Dr. Neale for the unremunerative and splendid labour of a lifetime. Neale's Digest is not a cheap book, but its price is very reasonable when it is taken into consideration that the expense of printing must be very great and that only a limited sale can be expected. But many more people want the book than have it—a state of things which we advise them to remedy at once by purchasing a copy of the latest edition.

THE EXPERTS' REPORT ON MANCHESTER SEWAGE.

THE long-expected report by the three gentlemen—Mr. Baldwin Latham, Mr. Percy F. Frankland, and Mr. W. H. Perkin, jun.—who were requested in May last to undertake a thorough examination of the Manchester sewage and to advise as to the best method of treatment has now been issued. From visits to sewage works at various places they came to the conclusion that there were three different types of treatment:—1. Disposal without purification by discharge into the sea, tidal estuary, lakes, rivers, &c. 2. Separation of more or less impurity by precipitation, mechanical or chemical. The matters left in solution by this method undergo subsequent putrefaction as they are scarcely affected by the treatment. 3. Destruction of more or less impurity by resolution into simple and inoffensive materials. This destruction may be effected by actual combustion, also by the use of certain chemicals, and by means of low forms of life—micro-organisms or bacteria. As regards the former two the cost is prohibitive, so that for the real purification of sewage there is only one practicable means available—viz., the employment of bacteria in some shape or form. Three methods had been before the committee of the corporation. As to the first, treatment of the effluent on land, it was calculated that 1300 acres would be required, exclusively of roads, carriers, and the usual adjuncts of a sewage farm. In view of the large cost and the unsuitability of the land at Davyhulme this system could not be recommended. The culvert scheme, the second on the list, is condemned in consequence, among other reasons, of the geographical position of Manchester and its obligations to the Ship Canal. They believe it would occasion considerable nuisance and call forth the "most hostile opposition of the riparian communities which would be affected." If the scheme received the consent of Parliament, which they consider highly improbable, they believe that the growth of public opinion on river pollution would render necessary further treatment of the effluent where it would be discharged into the estuary, which would mean that the cost of the culvert would be thrown away. There is the further objection that it would cause the abstraction of upwards of 25,000,000 gallons per day from the waters of the Ship Canal. These are a few of the objections to the culvert scheme. Thirdly, the bacterial scheme is examined. The experts were impressed by the experimental results obtained by Sir H. Roscoe and subsequently by Mr. G. J. Fowler, contained in the city surveyor's reports for 1896 and 1897. But the scheme then in use involves the carriage by steamer out to sea of 190,000 tons of sludge every year and the outlay of £5000 for chemicals. They therefore made a searching investigation of their own as to how bacteriological processes could be best applied to the special case of Manchester sewage. They wished to learn if trade refuse seriously impaired them, if part of the sludge could be destroyed by bacterial agency, if the addition of chemicals could be dispensed with, and to determine if an aerobic process, or a combination of the anaerobic and aerobic processes, is the more advantageous. It would occupy too much space to go into further detail, but the conclusion was arrived at that the bacterial system is the best for the purification of the Manchester sewage, notwithstanding the presence of much manufacturing refuse. As regards this last point the results obtained have far surpassed their expectations. This treatment is efficacious at all seasons, the temperature of the sewage being sufficient both to prevent any stoppage of the beds by the formation of ice and also to maintain the necessary activity of the bacteria even in the coldest weather. After giving their conclusions very fully the report specifies their practical recommendations, and it concludes by stating their confident opinion that this system will give an effluent which will not only conform with the "Mersey and Irwell standard, but which will also materially improve the condition of the Ship Canal," and that as it does away with the use of chemicals and to a very large extent reduces the volume of the sludge to be dealt with, much of the present expense will be saved by its adoption, and this saving may be taken as a material set-off against the cost of the proposed works. Having now got their report it remains to be seen what the Council will do with it.

THE "GARBAGE MONGERS."

SOME little time ago we commented[1] upon the case of some infamous persons named Fells who were convicted of selling putrid foodstuffs of various kinds, one of whom consequently enjoyed during a period of four months wholesome meals in a spotlessly clean room at the expense of the taxpayers. On Nov. 16th Thomas Daley of 32, Woodstock-road, Poplar, was charged at the Thames Police-court with selling a quantity of condensed milk unfit for human consumption. Evidence was given of the supply of bad milk to various tradesmen by the defendant, and Mr. F. W. Alexander, the medical officer of health of Poplar, deposed to the condition of the milk. The majority of the tins found in a shop kept by a man named Morland were "blown" and the contents were bad. Mr. Morland gave evidence and said that he had been in the habit of buying milk from the defendant for 3*s.* or 3*s.* 6*d.* per case. The milk was cheap and was used in the trade for making pastry and cakes. He did not consider that a halfpenny a tin was a good price. Various other witnesses deposed to having bought milk from Daley which had been condemned. The foreman to Messrs. Lehmann, milk importers, said that a man named Worsfold had been paid to take away bad milk, and the tins shown to him by Mr. Alexander were those which Worsfold had been paid to take away. The defendant, who gave evidence, said that he had been traveller to a Mr. Long who was in the employ of Mr. Fells. He had never got any milk from Worsfold. He should hesitate to sell "blown" tins, but could not quite say why. He declined to say from whom he purchased milk. The defendant's solicitor said that he had no

[1] THE LANCET, April 15th, p. 1047, April 29th, p. 1171, and July 29th, 1899, p. 295.

witnesses to call for the defence. Mr. Dickinson is reported as saying that he doubted whether he ought not to send the defendant to prison. This infamous trade must be stamped out. He fined defendant £40 and 10 guineas costs, or, failing goods to the value of the amount, he was to suffer three months' imprisonment. We cannot see where the doubt came in. We might remind Mr. Dickinson that he discharged Vernon Fells with a caution on April 6th, and on July 20th Mr. Mead granted a summons against Vernon Fells for being in possession of unsound food. We have said before, and we say again, that persons of the class of Fells and Daley are potential poisoners and should be treated as such. The Poplar Vestry might expend a few pounds in placarding Poplar with an account of Daley's conviction and what led to it.

THE STRUCTURE AND FUNCTION OF THE PROSTATE GLAND.

IN an article contributed to the *Archiv für Anatomie und Physiologie* for October Dr. George Walker of the Johns Hopkins Hospital, Baltimore, gives in detail the results of his careful observations on the structure of the prostate gland, which he thinks has been insufficiently investigated, the only accurate descriptions being those of Henle, Kölliker, Sappey, and Testut. Many authors consider it to be a muscular rather than a glandular organ, and various opinions have been expressed in regard to its function. Dr. Walker has examined the prostate in man, in the dog, the cat, the pig, the mole, the hedgehog, the ox, and the hamster. Difficulty was experienced in obtaining the prostate of man in a perfectly fresh state and Dr. Walker's statements are chiefly founded on his sections of the prostate in the dog. Various means of hardening and staining were adopted. On superficial examination the musculature of the prostate appeared to consist of an intricate web of fibres decussating in all directions without order or arrangement, but more careful examination showed that they had a definite disposition. On making a sagittal section of the segment of the prostate above the urethra a spiral fasciculus of unstriated muscle was found close to the mucous membrane, with a thin longitudinal muscular layer situated both internally and externally to it. The existence of this spirally arranged layer of fibres has been denied by some authors, but is constant in the dog and is stated to be present in man both by Versari and O. Kalischer. In relation with the circular fibres, though not very intimately connected with them, is a thicker muscle the fibres of which are in part circular, in part longitudinal, and in part and chiefly oblique, and invest as it were and run concentrically to the lobes of the base of the prostate. These slender and closely compressed muscular bands become attenuated towards the bladder, from the muscular tissue of which they are in some cases separated by a well-defined layer of connective tissue. They are quite distinct from the sphincter vesicæ, run excentrically to the urethra, and form part of the gland. The apex of the gland is covered with a thick layer of muscular fibres except on the sides where there is an area free from fibres and from this layer fasciculi dip into the substance of the gland and separate the lobules from each other. In front of the gland is the sphincter vesicæ externus, behind it the sphincter vesicæ internus, and between it and the prostate the sphincter urethræ membranaceus, all three of which are composed of striated muscle. The longitudinal fasciculi of the bladder and urethra are continued for a short distance upon and into the posterior part of the gland, but do not traverse it. The general arrangement of this musculus prostaticus is adapted to compress the prostate and does not enable it in any way to act as a sphincter of the bladder. The colliculus seminalis contains much muscular tissue but is not exclusively composed of it; the ejaculatory ducts preserve their muscular layers nearly to the point where they open upon the colliculus, and they are invested by a dense layer of elastic tissue. The gland substance of the prostate consists of about 50 lobuli embedded in connective tissue and delicate unstriated muscular fasciculi and constructed on the alveolar type. The ducts which open into the prostatic sinus are from 15 to 32 in number. In regard to the function of the prostate very different views have been expressed by instructed observers, some considering it to be scarcely deserving of the name of a gland, whilst others hold it to produce a secretion of considerable importance. Wagner thought that in common with the vesiculæ seminales it secreted a fluid the density and "glairiness" of which prevented the escape of the semen after it had been injected into the vagina. Ellis thought that the large quantity of muscular tissue contained in the gland enabled it to assist in the expulsion of the semen. Harrison maintained that it supported and acted as a sphincter of the bladder, whilst Chapman goes so far as to state that its function is unknown. Many other observers are of opinion that the prostatic fluid aids the mobility of the spermatozoa. Dr. George Walker has paid particular attention to this point and the results of his observations are as follows. In the fluid taken from the testes of the dog the spermatozoa were motionless, nor was there any movement in those from the head of the epididymis. Slight movements might be observed in the fluid from the tail of the epididymis, especially in those parts where the fluid was thin. There were very slight movements in the fluid contained in the vas deferens, except where the fluid was of thinner consistence. Distinct but not very lively movements were observed in a mixture of semen from the testes and the prostatic secretion. Only in a mixture of semen from the epididymis with the prostatic fluid did the spermatozoa present lively and persistent motion. In the dog, it will be remembered, there are no vesiculæ seminales, but doubtless the glands of Cowper or the glandulæ bulbo-urethrales contribute to dilute the semen and perhaps to supply the spermatozoa with pabulum for their development. In physiological salt solution (0·75 per cent.) their motion endures for three hours; in prostatic secretion for 20 hours. Dr. Walker endeavoured to ascertain the functions of the colliculus seminalis which has been thought by some to undergo a kind of erection and thus to occlude the urethra, preventing the passage of the semen into the bladder during emission. This view he was unable to substantiate, but believes that it may interfere with the contraction of the sphincter vesicæ externus of Henle. The longitudinal fasciculi of the membranous portion of the urethra by their contraction dilate the distal segments of this portion of the urethra and this tends to drive the semen forwards by a process of exhaustion.

FELLOWS' DINNER OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

A VERY successful gathering of the Fellows of the Royal Medical and Chirurgical Society was held on Nov. 18th, when they dined together at the Whitehall Rooms, Hôtel Métropole, Mr. Thomas Bryant, the President, being in the chair. Mr. Bryant proposed the toast of "Our Patron the Queen" in felicitous terms, and then the toast of "Our Society" was proposed by Dr. James E. Pollock who sketched the history of the society, which in five years' time will have reached its centenary. "Our Guests" was proposed by Dr. Pye-Smith, who referred incidentally to the indebtedness of the society to the medical Press. This toast was responded to by the President of the Royal College of Physicians of London and the Right Rev. the Lord Bishop of London. The latter thought that there

was a strong bond of sympathy between the medical profession and his own, for they both had to deal with human nature. He also thought that there was no such good company as that of medical men; although, he remarked, he was always more glad to be the guest of the medical profession than to meet "the doctor" within his own doors. Mr. Holmes proposed the health of the chairman, who, in replying, mentioned that it was just 80 years since Guy's Hospital had been represented in the chair of the society, for it was in 1819 that Sir Astley Cooper had been elected president. Some excellent music was provided by Sir Felix Semon, Dr. S. H. Habershon, and others; and Dr. George Ogilvie caused much amusement by the narration of some witty Scotch stories.

TO THE THIRD GENERATION?

A CASE which excited great interest, although probably it presented nothing more than a coincidence, occurred recently in the consultation theatre of the Medical Graduates' College and Polyclinic. A child, aged nine months, obviously the subject of inherited syphilis, was brought by the mother, a married woman. Mr. Hutchinson at once recognised in the mother's face the physiognomy of inherited taint, and this was confirmed by the history of an attack of keratitis at the age of 17 years and the presence of one notched and characteristic incisor tooth. Thus it seemed possible that the case was one of inheritance in the third generation. The woman had been married eight or nine years and she stated that a former child, now aged seven years, had in infancy shown the same symptoms as her present child showed. Mr. Hutchinson remarked that he could not feel the slightest doubt that both mother and child were the subjects of inherited syphilis. The question remained, however, as to whether or not one or other parent had not acquired the disease. Looking at the extreme rarity of such cases—this being only the second that had ever come under his observation—he was inclined to suspect that in all of them parental acquisition had really occurred. Nothing was *a priori* more improbable than that hereditary taint should survive to the third generation. If it were possible cases ought to be fairly common, whereas by general experience they are extremely rare.

LIPÆMIA IN DIABETES.

THE *Journal of the American Medical Association* of Oct. 21st contains an important paper on the above subject by Dr. T. B. Futcher, resident physician in the Johns Hopkins Hospital. Lipæmia has been repeatedly observed after death from diabetes, but it has been seldom noted during life, as in the following case. A brakeman, aged 31 years, was admitted to the Johns Hopkins Hospital on April 10th. He had fallen from a train eight years previously and from a 12-foot trestle two years previously. He became unconscious at the time of the last accident. About the middle of February he became excessively thirsty. He vomited frequently after meals. On April 3rd his weight had fallen from 150 lb. to 118 lb. The urine contained 5 per cent. of sugar and gave Gerhardt's diacetic and acetone reactions. Under the hospital mixed diet 235 grammes of sugar were excreted on April 13th. Under a diet without carbohydrates the sugar diminished to 117 grammes on April 14th. Only 29·7 grammes were excreted on April 19th. On April 13th the blood showed an enormous number of refractile granules, varying from 2 μ to 5 μ in diameter and having an active Brownian movement. Their resemblance to microbes was so striking that the clerk reported that the blood was swarming with bacteria. Dr. Osler thought they were probably fat particles. A small amount of blood was centrifugalised with the hæmatokrit. The serum obtained was markedly turbid and milky as compared with that from a non-diabetic patient. Some of the granules seemed to take a slightly black colour with osmic acid. Another specimen of blood was preserved in a test tube in order to allow the serum to separate. The latter was extremely opaque and milky. On standing a thin creamy layer accumulated on the surface. The turbidity of the milky serum partly cleared up when it was shaken with ether. Osmic acid stained a certain number of the droplets a faint blackish tint. Apparently the turbidity was only partly due to fat. Virchow[1] refers to a case recorded by Buchanan in which the blood contained albuminous particles. Virchow's personal observations seemed to show that the granules in the blood serum were fat droplets surrounded by an albuminous coating. On May 15th Dr. Futcher's patient was much better; the urine was free from sugar, the blood granules were not more numerous than normal, and the serum was almost perfectly clear. The amount of fat in the lipæmia of diabetes may be considerable. Lecanu found as much as 117 parts per 1000. Various explanations have been given. Hoppe-Seyler held that the lipæmia was physiological and that the fat originated from the chyle which was over-produced owing to the enormous appetites of diabetics. But Ebstein showed that all cases could not be so explained, for it was present in a case where no food had been taken for 24 hours and very little for several days. He thought that a considerable part of the fat in the blood resulted from degenerative processes in the tissues.

THE DEMANDS OF SERUM-THERAPY.

THE antitoxin treatment of disease has necessitated a new scientific industry, and it is gratifying to record that in this country provision is being made for the supply of reliable serum and on a scale which should satisfy the demand not only at home but abroad and in the colonies. The preparation of standard antitoxin needs, of course, the utmost care and skill such as can only be exercised by trained bacteriologists and chemists. The manufacture of antitoxins exacts much more scientific knowledge than is required in the production of even fine chemicals and drugs. Above all it is essential that the antitoxin be standardised so that the practitioner may have confidence in the preventive and curative properties of the remedy which he uses. The earnest endeavours of our great manufacturing chemists to add to their equipment a department for the preparation of serums may therefore be noted with satisfaction, and it is even more satisfactory to note that with this equipment laboratories are provided for the prosecution of research as to the constitution and nature of the serum therapeutic principles. Such, at any rate, is the case with the new physiological research laboratories which Messrs. Burroughs, Wellcome, and Co. have recently completed at Brockwell Hall, Herne Hill. It is an interesting metamorphosis, the evolution of an old private country residence into a bacteriological institution, and it is curious how the appointments of a large domestic mansion have lent themselves for the purpose. The drawing-room with its excellent provisions for light has given place to the bacteriological laboratory, the dining-room to the chemical physiological laboratory, the cellars to an incubation compartment, the butler's pantry to a storehouse for serum, the kitchen to the preparation still of soup but intended for the nourishment of low organisms. The entire equipment is admirable, the laboratories being fitted with all those modern appliances which are requisite in the production of reliable standard serums. Not far from the house is a large stable with cleanly appointments containing a

[1] Gesammelte Abhandlungen, I., 1856, p. 138.

stud of horses which are alternately injected and bled. Truly the horse has become the friend of man in a quite new sense and there is not the slightest indication that the animal resents this function. The horses are, of course, well treated, fed, and exercised, while they are exempt from arduous labour. With the appointment of truly scientific institutions of this kind we may hope for continual advances in serum therapeutics, for clearly the facilities afforded by a modern equipment of this excellent order should materially add to our knowledge of one of the most interesting revelations of medical science during recent years.

THE CRYPT OF ST. GEORGE THE MARTYR, SOUTHWARK.

WE have upon previous occasions[1] commented upon the remarkable behaviour of the parochial authorities of the parish of St. George the Martyr, Southwark, with regard to the clearing of the crypt of the church of offensive human remains. After an infinite amount of goading from Dr. F. J. Waldo, the medical officer of health, and from the Home Office the crypt has been cleared at an expense of £2500. On Nov. 7th the vestry had a meeting, when the chairman described the work as absolutely unnecessary, and Mr. Benham, as a working man, said that it was monstrous that he should have been robbed of 4*s.* 2*d.* to take away dead bodies. There was a question as to whether more clearing might not have to be done, whereupon it was decided that the vestry should visit the crypt. In answer to a question as to whether members of the press might visit the crypt together with the vestry the chairman is reported as saying, "Decidedly not; the churchwardens won't permit it. The press has had quite 'copy' enough about the crypt." The chairman may rest assured that so long as the crypt is a danger to health so long will the press, or a portion of it, continue to have copy about the matter. The Vestry of St. George's, Southwark, seem fond of keeping health matters dark, for at the same meeting a motion proposing that the medical officer's diary should be read to the full Committee on Public Health and Sewers instead of, as at present to a small sub-committee, was negatived.

MISTAKES IN DIAGNOSIS.

AT Glamorgan Assizes on Nov. 15th Mr. Arthur Lewis appeared on behalf of the Treasury to make application to Mr. Justice Bucknill for the discharge of the recognisances of Mrs. Minnie Jane Hayter. In answer to this the judge is reported as saying that Mrs. Hayter was committed to take

"her trial here for the wilful murder of her husband, and the committal by the magistrates arose in this way. She and her husband lived in a little cottage in a lonely part of the country and her husband died. The doctor—whose name he would not hesitate to mention—or a medical man, or a person describing himself as a medical man or a surgeon, was Mr. John Henry Spreat, by whose carelessness, to use a mild expression, this poor woman has been put in peril of her life, had induced the magistrates to believe that the deceased man had died of a broken neck. In his depositions before the magistrates Spreat said he found at once that the neck was dislocated and that death must have been instantaneous. He also said that on the left side of the head he found a contusion and a small clot of blood—formed, he thought, a few hours before. Mr. Spreat said the neck was dislocated high up and that the dislocation must have caused instant death. He also said that a billhook was produced to him, the blunt edge of which corresponded with the bruise and he said that it might have been used, although he could see no blood on it."

On that evidence Mrs. Hayter was committed to take her trial for murder. However, some friend interested himself in the case, obtained an exhumation order, and another post-mortem examination was made in the presence of Mr. Spreat by Dr. W. E. Thomas, Mr. W. Randall, and Mr. Griffiths. Their report, to which Mr. Spreat agreed, showed that deceased had died from pneumonia and that there was no broken neck. The judge animadverted very strongly upon Mr. Spreat's blunder and considered that he was bound to compensate Mrs. Hayter if he could. We are quite in accordance with Mr. Justice Bucknill. Everyone makes mistakes—even judges sometimes have the pleasure of seeing their decisions reversed, while in the sister faculty the opinions of Archbishops are not always acquiesced in. But a medical man's mistakes have a more serious effect than those of other men. It would be well for all of us to bear in mind the answer of the plumber to Dr. Radcliffe who reproached the man for scamping his work: "Ah, doctor, mine is not the only bad work the earth hides."

ABSCESS ON THE ANTERIOR SURFACE OF THE EPIGLOTTIS.

IN the *New York Medical Journal* of Oct. 28th Dr. A. C. Howe has published a case in which the unusual condition of an abscess on the anterior surface of the epiglottis was present. A man, aged 24 years, complained of pain and tenderness above the larynx. His throat began to be sore a week previously. He had had slight chill, headache, and malaise. Dyspnœa began and increased until he could not lie down, and deglutition became so painful that he could not eat. The fauces and pharynx were slightly inflamed. The epiglottis was forced backwards and downwards so as almost completely to close the larynx. Inspiration was more difficult than expiration because in the former the epiglottis was drawn down. A well-defined tumour about half an inch in diameter occupied the middle of the anterior surface of the epiglottis extending almost to the tip. The surrounding parts were considerably congested and swollen. The tumour was incised and nearly a drachm of foul pus was discharged. The dyspnœa was immediately relieved and the other symptoms began to subside. Probing showed that the cartilage was partly destroyed but not perforated. After healing a dimple remained and the lateral curvature of the epiglottis was flattened.

CRAIG COLONY PRIZE FOR ORIGINAL RESEARCH IN EPILEPSY.

IN 1898 Dr. Frederick Peterson, President of the Board of Managers of the Craig Colony for Epileptics, offered a prize of $100 for the best original contribution to the pathology and treatment of epilepsy. The seven papers received were submitted to three members of the New York Neurological Society, who reported in October, 1899, to the Board of Managers of the Craig Colony that the committee on the Craig Colony Prize for Original Work in Epilepsy had decided that no award should be made this year. Some of the essays submitted failed to comply with the conditions of the competition, others were more limited in scope than a successful essay should be. Three essays deserved special mention. The prize of 1899 not having been awarded in accordance with the report of the committee Dr. Peterson now offers a prize of $200 for the year 1900 under similar conditions. This sum will be awarded to the writer of the best unpublished contribution to the pathology and treatment of epilepsy. Originality is the main condition. The

[1] THE LANCET, Feb. 25th (p. 531) and April 22nd, 1899 (p. 1111.)

prize is open to universal competition but all manuscripts must be submitted in English. Each essay must be accompanied by a sealed envelope containing the name and address of the writer and bearing upon the outside a motto or device which is to be inscribed upon the essay. All papers will be submitted to a similar committee, consisting of three members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the board of managers of the Craig Colony, Oct. 9th, 1900. Manuscripts should be sent to Dr. Frederick Peterson, No. 4, West Fiftieth-street, New York City, on or before Sept. 1st, 1900. The successful essay becomes the property of the Craig Colony and will be published in its medical report. The Craig Colony has done such a good work in the treatment of epilepsy that we hope that British practitioners will show their interest in the benefits accruing to sufferers from the distressing disease, to say nothing of Dr. Peterson's generosity, by competing for the prize.

QUEEN VICTORIA IN ITALY.

OUR Rome correspondent writes under date Nov. 19th:—"Information officially inspired leaves it no longer doubtful that it will be the Italian, not the French, Riviera that will be honoured with Her Majesty's presence in the ensuing spring. On, or immediately after, March 1st Queen Victoria will arrive at Bordighera, where the Hotel Angst, occupying a finely-sheltered position on the Roman Road, will be set apart and suitably prepared for her reception. Her Majesty's sojourn, I am further advised, will, like her journey itself, be in official form, while her suite will consist of 90 persons all told. The duration of her visit will, as on former occasions, depend upon circumstances, but will not be prolonged, I believe, later than the close of April. Being, as I have said, 'in official form,' her sojourn will not exclude the visits of the representatives of foreign courts, and the first to pay their devoirs to Her Majesty will be her august hosts the King and Queen of Italy. For some time it was expected that Her Majesty, with the Princess Beatrice, would, as in 1888, 1893, and 1894, have made Florence the scene of her vernal *villeggiatura*, and many were the considerations that seemed to favour such a prospect. But circumstances of a special kind have led to the choice of a sojourn nearer home, and Bordighera, with its delicious climate, to which it owes its attraction of semi-tropical vegetation culminating in palm-groves of equal luxuriance and antiquity, forms the best conceivable substitute for 'Our Lady of Flowers.' It would be idle to ignore the satisfaction with which Her Majesty's contemplated visit inspires Italians. Over and above the honour of acting as hosts to a Queen and Empress on whose dominion the sun never sets, they are proud to have the opportunity of demonstrating their attachment to the head of a State from which their long struggle for unity and independence received such steady, effective, and disinterested support. Another ingredient in their self-congratulation is the quite natural and not illegitimate one of 'taking the *pas*' of their French neighbour, from whose 'policy of pin-pricks' no contemporary Power has suffered so persistently as they. Already they are 'enjoying' (to put it mildly) the desertion of the non-Italian Riviera which French journalism and French oratory have spared no effort to justify ever since the 'incident' of Fashoda. As I write the most desponding reports reach me as to the absence of the English-speaking world in Cannes and Nice which, like other resorts favoured by that world, seem resigning themselves to an even more disastrous season than that of 1898–99. The presence of the Queen of Great Britain on Italian soil will certainly do nothing to abate the abandonment seemingly in store for the neighbouring French resorts, and Italy would be more than human if she failed to see in England's 'punitive preference' for a non-French *villeggiatura* the reward for the much fairer attitude towards the British cause in South Africa which Italian opinion has of late adopted. So, all things considered, we may condone to the 'youngest of the Great Powers' her present exultation over her supercilious neighbour, whose studies of 'Zimmermann on Solitude,' she suggests, may be appropriately varied by reflections on her own excellent apophthegm, 'As you make your bed, so you must lie.'"

THE ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14th, 1900, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but must not have been published, and should be received by the secretary of the College on or before May 1st, 1900. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the writer. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1899 has been awarded to Dr. Robert L. Randolph of Baltimore, Maryland, for his essay entitled, "The Regeneration of the Crystalline Lens: An Experimental Study."

THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS AT SHEFFIELD.

THE authorities of the Sheffield Royal Infirmary have not been behindhand in giving a trial to what is known as the "open-air treatment of consumption," although the phrase suggested by Dr. Kingston Fowler—"the sanatorium treatment of pulmonary tuberculosis"—is much to be preferred. In THE LANCET of Nov. 11th (p. 1291) we published a paper by Dr. Noel Bardswell, the house physician at the infirmary, showing the results of six months' treatment and the statistics of 30 cases. These are certainly very encouraging although so modestly stated by the writer: "The results of the treatment, as manifested by improvement in the condition of the lungs, appetite, digestion, weight, and general well-being, with diminution of cough and expectoration and of the usual symptoms of constitutional disturbance, have been similar to those which have followed the trial of the treatment under more favourable meteorological conditions." The majority of those observers who have had the opportunity of watching the progress of cases undergoing the sanatorium treatment in this country are coming to the conclusion that good feeding together with due attention to the digestive tract are of more importance than climate, although there should be as much exposure to the open air as circumstances will permit. The results obtained at Sheffield should incite other provincial hospitals to make similar trials. Dr. Bardswell's figures show that out of the 30 cases in all stages of the disease six were "cured," 16 were "much improved," seven showed "some improvement," whilst one (with laryngeal tuberculosis) remained *in statu quo*. The general arrangements adopted at the Sheffield Royal Infirmary are highly to be commended. Dr. Bardswell's classification of the varieties of cases met with in what is usually known as "the third stage" of pulmonary tuberculosis is a

useful one and, as would be expected from what is stated above, those patients suffering from bad digestion did not progress so favourably as those in whom the digestion was good.

RECURRENT DISLOCATION OF THE KNEES IN INFANTS FROM MUSCULAR ACTION.

IN the *Intercolonial Journal of Australasia* of Sept. 20th Dr. A. J. Wood has described a case of this rare condition. A well-nourished female child, aged 14 months, was brought to hospital. At the age of nine months the mother noticed for the first time that the child's bones "cracked," sometimes apparently with pain, causing her to cry, at other times without any. For a month previously the joints had shot in and out more frequently than usual. There were three other children who were unaffected. All the patient's joints seemed very lax and she could bend the legs and arms into peculiar positions. She could stand with support but could not crawl or walk. She had cut six teeth and there were no signs of rickets. When the left knee was flexed the head of the tibia was at times spasmodically dislocated outwards and as quickly reduced with a sharp crack. The right knee was less frequently affected. When the child cried or was excited the cracking of the joints was exaggerated, but the act of dislocation did not appear to be painful. Dr. P. F. Barbour[1] has described a similar case in a child aged eight months. The dislocations decreased whilst the child was taking cod-liver oil. Dr. Ballantyne[2] has published the case of a male infant, aged 11 months, in whom the dislocation was limited to the right knee.

XEROFORM IN MILITARY SURGERY.

DR EMILIO P. NOGUERA, Surgeon-in-Chief of the Spanish Sanitary Corps and chief of the surgical clinic at the army hospital, Jiminez, Cuba, writing in the Madrid *Revista de Medicina y Chirurgia Practicas* of April 25th, 1899, states that during the Cuban War he employed xeroform in a great number of wounds occasioned both by bullet and by steel. Bullet wounds were first cleansed by means of abundant irrigations with a 1 in 1000 sublimate solution, care being taken to reach all their recesses and sinuosities; a thin layer of powdered xeroform was then applied at the points of entrance and exit of the projectile and covered both with sublimate gauze and carbolised cotton. The dressing was only changed after it had become saturated with discharge. Cicatrisation was obtained without suppuration. Sword wounds were irrigated in a similar manner, and after being sutured the line of incision was covered with a layer of xeroform and bandaged. Cicatrisation occurred by first intention in every case and without the appearance of any accident or complication. The time required for the process varied between one and three weeks, in accordance with the size and depth of the wound, this being an unusually short time for the climate of Cuba. For contused wounds with loss of substance, in which approximation and suturing of the margins were impossible, the time required for healing under the xeroform dressing was longer (36 days). Dr. Noguera considered that xeroform was very valuable when large numbers of wounded had accumulated, since it dried up the moisture secreted from the exposed surfaces and sterilised them. He is convinced—although he did not test it by actual practice—that a simple xeroform dry dressing applied on the battle-field would keep the wounds aseptic for from two to three days, thereby giving time more than sufficient for the removal of the patients to the hospitals.

[1] Archives of Pediatrics, January, 1899.
[2] Ibid., April, 1899.

THE death is announced of Professor Tiemann, Professor of Chemistry in the University of Berlin and editor of the Proceedings of the German Chemical Society. He was an ardent research scholar, and his studies of the terpenes resulted in the establishment of an industry for the synthetic production of artificial flavouring matters and perfumes. It is said that the artificial violet perfume which Professor Tiemann succeeded in preparing synthetically is largely used for communicating odour to otherwise odourless flowers.

DR. HENRY HICKS, F.R.S., whose death occurred on Saturday last, was the son of a medical man and himself a medical man, a specialist in mental diseases, and the proprietor of a well-known private asylum. His Fellowship of the Royal Society was obtained for his excellent geological work.

AT the November sessions opened on Nov. 20th at the Old Bailey certain persons of both sexes trading as Madame Frain were put on their trial for "inciting to the use of certain noxious drugs."

THE course of lectures on Dental Surgery by Mr. Storer Bennett announced to be given at the Middlesex Hospital during November and December is unavoidably postponed until after Christmas.

THE President and Fellows of the Royal College of Physicians of Edinburgh will hold their annual dinner at their Hall on Thursday, Dec. 14th, at 6.30 P.M.

THE first annual dinner of the Association of Public Vaccinators will be held at the Trocadéro Restaurant, to-night, Saturday, Nov. 25th, at 7 P.M.

THE total cost of the London County Council Asylum at Horton has now been ascertained to be no less than £456,130—an enormous sum.

THE guardians of Leicester have yielded to reason and appointed a vaccination officer.

THE WAR IN SOUTH AFRICA.

SINCE we last wrote on the subject which engrosses public interest at the present time, and is likely to engross it for some time yet, there has been a comparative lull which has been followed by a period of increasing activity and tension at the theatre of war. The lack of news necessarily entails an increased pressure of suspense on the part of the public in general and of still more serious anxiety on the part of those (of whom there are so many) who have relatives and friends serving in the campaign. The pressure of anxiety upon the latter may be represented as having increased to any number of pounds upon the square inch. War is a terrible calamity—although there are even worse things than war—for it brings with it an inevitable train of suffering. Those for whom the coming Christmas will be marked by grief and sadness instead of happiness in their homes—the homes of Britons and Boers alike—may well claim our sympathy and pity. But we confess that we have no sympathy with those self-constituted and irresponsible critics who descant adversely upon every detail connected with our military operations in South Africa. No doubt they think how much better everything would have been managed had they, instead of the British generals on the spot, planned and conducted these operations. Happily for this country, however, they are not in a position to put their facile theories and pet fads into practice. What are the facts? The British force in South Africa was relatively a very small one when the ultimatum from the Transvaal Government which gave us

48 hours' notice to yield to its demands or take the consequences was delivered. The Government of this country is a Parliamentary one and not that of an absolute monarchy; there is, too, such a thing as a political power outside Parliament as well as an Opposition inside it, and what, it may be asked, would have been the consequences to the Government had they taken years ago, when they found the Boer Government increasing its armaments, the course which a more autocratic power like Russia, or even Germany, would have adopted? It is only fair to the Government to say that they are now blamed—and possibly not altogether unjustly—for their procrastination and unpreparedness by the very people who declared that this country had by its diplomacy forced the Boers into rebellion. The British garrison in South Africa has been up to the present time enormously outnumbered and in order to bring it up to its required strength troops had to be sent a distance of 6000 or 7000 miles by sea. Until these troops reached the theatre of war those already in the country had to defend as best they could the positions which they were occupying. This they have so far certainly done, and the South African Republics during the time that we were more or less at their mercy have failed to attain the object which they had in view. Strategically speaking, they have missed their opportunity so far for reaching Maritzburg and Durban before the arrival of the British reliefs, notwithstanding that they have now very skilfully succeeded in isolating Estcourt and in cutting the wires and getting control of the railway. Sir George White at Ladysmith has meanwhile succeeded in some most important directions. He has held Ladysmith and continues to do so, and by harassing the besieging forces he has delayed the massing of the Boer troops to the south, while he has kept his own men in excellent fettle, spirits, and training by his sorties and by the way in which they have repelled all General Joubert's assaults. Hitherto the element of time has been all in favour of the Republican troops and the invaders of those territories which are directly under the rule of the British Empire. They have had their turn and now it is, we may hope, becoming ours. Henceforth the British force that has already landed in South Africa will be constantly increasing and the armies in the field will be receiving increment after increment to swell their strength. Humanly speaking, as far as anything can be certain, the end of this rebellion—for it is veritably and indeed a rebellion on the part of the South African Republics—can have but one ending. So long as the British fleet has command of the seaboard our supply of men and war *matériel* is practically unlimited, whereas that of the Boers will be a diminishing quantity. The war is an unnecessary and calamitous war, entirely brought about by President Kruger and his advisers, who have been selfishly and persistently aiming at it for years, and no diplomacy on our part could have averted it. It had been determined upon by the Boer Government, and as it was inevitable it is well perhaps that the time they have themselves chosen does not happen to be one in which our army is engaged elsewhere. It must be a source of sincere gratification to learn that our soldiers have uniformly acted in the spirit of humanity to their wounded foes and, speaking generally, this feeling seems to have been mutual. A correspondent, after witnessing the acts of kindness and humanity shown by our soldiers to the wounded Boers after a hard fight, has said that the British soldier showed himself a hero in the fight and a gentleman afterwards. The latest official accounts regarding the health of the British forces in South Africa are, so far, very satisfactory. There does not appear to be any exceptional amount of disease prevalent. Of course there is, and must be, a certain amount, and generally a large amount, of sickness incidental to field service and warfare, but we have been vastly improving of late years in this respect, and the improvement is a progressive one, for the results of each campaign undertaken are better than those of the preceding one, whether as regards gunshot injuries or sickness, thanks to antiseptic surgery in the one case and an improved army hygiene in the other. The hospital service already in the country appears to be working well, but the major portion of it cannot have yet arrived for a sufficient time to have been thoroughly organised and put in working order. Looking over the list of transports that have already reached the Cape it will be seen that a large number of them conveyed hospitals—stationary and field—hospital stores and equipment, and detachments of officers and men of the Royal Army Medical Corps. As all the men are supposed to be well acquainted with the system and the work that will have to be done we may confidently expect that no time will be lost, when the plan of the campaign has been definitely settled, in organising the hospital service on a workable basis—a sufficiently arduous and responsible undertaking under the circumstances. Our readers have had an opportunity of ascertaining for themselves the scale on which hospital supplies and all modern scientific appliances have been provided.[1]

There has been a great strain on the Army Medical Service in consequence of this war. The service, which is much below what should be its minimum strength, has been depleted at home stations to supply the demands of South Africa, and a large number of medical officers on the retired list, as well as civilian medical practitioners are being employed in the military districts of this country. The concession of purely military titles to medical officers has not apparently had the effect which was anticipated. The strength of the Army Medical Service is really insufficient for the requirements of our Imperial Army and it should be increased. This would have the effect of shortening the long period of foreign service which under existing circumstances falls to the lot of officers of the Royal Army Medical Corps.

We notice the announcement of the arrival of Sir William Mac Cormac and Mr. G. H. Makins in South Africa, and wish them good health and every success in their undertaking.

The letter which appeared in the *Times* of Nov. 13th, from "A Surgeon R.N.," *apropos* of the proposal to utilise in future the services of eminent civil surgeons on the actual scene of warfare, contains some very shrewd and practical comments with which we to some extent concur. There are, no doubt, many practical difficulties, to which we have already adverted, as regards the distribution of such civilian surgeons so as to make their services available in the field, and especially in the way of the successful practice of abdominal surgery in war, and the carrying out of any elaborate system of antiseptic surgery; still, we think that the presence of a certain number of hospital surgeons of thoroughly recognised eminence would be of great service and be welcomed by military surgeons and prove a source of satisfaction and support to them. We hold, too, that as regards the public the Government acted very wisely in the step they have taken in this respect; and we see no reason why, if such a principle is to be adopted in future, the necessary arrangements should not be made beforehand in concert with the Army Medical Service during a time of peace. We recognise, of course, that the case of Germany is not altogether parallel with that of this country, but that is no reason why an attempt should not be made to formulate some plan for utilising the services of a limited number of distinguished hospital surgeons in war. No amount of surgical or expert eminence will make its possessor ubiquitous and the great bulk of the surgical work in the field must in any case inevitably be discharged by the regularly constituted army surgeons.

MEDICAL ARRANGEMENTS.

A special form has been issued for the use of sick convoys. The columns are similar to those in the new field service admission and discharge book which will be issued when the supplies of admission and discharge books have to be renewed, and this will indicate the nature of the facts that should be recorded in the existing books. The names of all men transferred to sick convoy will be entered in this form instead of on Army Form A 36, and when all have been transferred from the sick convoy the form will be sent to the principal medical officer of the general hospital at the base. This special form will not be used for the duplicate copy of the roll referred to in paragraph 747 of the regulations for Army Medical Services, such duplicate copy being submitted, as formerly, on Army Form A 36. The principal medical officer of the general hospital at the base will carefully number and file these forms and at the end of the campaign they will be stitched or bound together, and thus form the admission and discharge book for sick convoys. Men conveyed to the general hospital at the base by sea will be regarded as on sick convoy, and the same nominal roll will be prepared as for sick convoy by land, but they will be shown in the admission and discharge books of the ships as transfers, not as fresh admissions. It will not be

[1] THE LANCET, Nov. 11th, 1899, p. 1320.

necessary to render Army Form B 182 for these transfers. Sick and wounded from the field force sent home as invalids from general hospitals at the base or other hospitals will be shown on a separate return on Army Form B 182, headed "Sick and wounded from the South African Field Force," and will not be included in any return of ordinary invalids from the South African or other commands. Similarly the statistics of sick and wounded from the South African Field Force admitted into any hospital other than those connected with the field force will be kept entirely separate from those of the ordinary sick of the station to which they are sent, nor will they be included in the returns for other invalids from abroad; but a separate weekly return of sick on Army Form A 31, headed "Sick and wounded from the South African Field Force" will be rendered and continued weekly until all are disposed of, the procedure being similar to that laid down in paragraphs 204, 313, and 424 of the Regulations for Army Medical Services. When the present stock of Army Form A 29 is exhausted the weekly returns of sick from hospitals connected with the field force will be prepared on Army Form A 28 which has been revised for that purpose. The latter form will continue to be used for all other purposes specified in the regulations. The general return submitted at the end of the campaign on Army Form A 29 by the principal medical officer will be prepared on a revised form which will be issued to him later. In all other respects the paragraphs relating to statistics contained in Part II. of the Regulations for Army Medical Services will be strictly adhered to.

(FROM OUR SPECIAL CORRESPONDENT.)

No. 1 General Hospital has taken over the permanent barracks at this place (Wynberg), which is about eight miles from Cape Town and is a most lovely spot more resembling Australia in its climate and scenery than Africa. At present all hands are hard at work fitting out the vacant barrack-rooms which have to be converted into wards and made ready for the reception and treatment of the wounded. The hospital occupies an ideal situation on the top of a slight hill which overlooks a lovely country, interspersed with beautiful residences leading right down to False Bay. The medical officers are accommodated in the vacant married quarters and the nursing sisters in the row of buildings lately vacated by the officers of the Munster Fusiliers who have gone to the front.

As far as can be seen at this early stage of the proceedings the wants of the wounded will be most amply looked after here as the whole hospital will be equipped on a liberal scale.

The officers' ward is formed from the late officers' mess and will accommodate easily 30 or 40 sick or wounded officers. The accommodation for the men comprises the present Station Hospital, which makes up about 100 beds, and several large and airy barrack-rooms, holding 25 beds in each room, the whole accommodation amounting to 500 beds, which will be completed, equipped, and handed over in the course of this week.

The surgical division will be under the charge of Lieutenant-Colonel R. D. Hodson, R.A.M.C., and the medical side will be in charge of Major R. W. Barnes, R.A.M.C., each officer having a staff of junior officers, either of the Royal Army Medical Corps or civilians, working under him.

The operating-room is being equipped by Messrs. Meyer and Metzler and will as far as is practicable be up to date in every respect, the electric light and the various arrangements for the sterilisation of instruments, &c., being of the latest description.

A well-fitted ambulance train will run between this place and the front and the wounded and invalids can be carried directly to the hospital ships off Cape Town. There is any quantity of volunteer talent available in case of necessity, and the work of the Royal Army Medical Corps and its officers will be considerably lightened and facilitated by its employment.

The transport *Jelunga* is expected here on November 1st with the first instalment of sick and wounded from the front and as the course of operations extend on the Orange River and towards Kimberley a steady flow of wounded may be expected.

I hear it is intended to augment the Royal Army Medical Corps by the employment of civilian surgeons from home and locally and there can be no reasonable doubt but that as far as the medical arrangements for the campaign go there will be no cause for complaint. In my next letter I may be able to say something about the surgical features of the wounds caused by the Mauser bullet, which seems to be the weapon exclusively used by the Boers.

The health of the troops at the front is excellent and notwithstanding the inclement weather and the hardships of campaigning life everyone is in the best of spirits and looking forward confidently to a successful finish to what will undoubtedly prove one of the most serious campaigns which we have had on hand since that of the Crimea.

Wynberg, Oct. 30th.

MUNICIPAL HONOURS AND MEDICAL MEN.

THE following is a detailed list giving more particulars of those members of the profession who have been elected or re-elected mayors than that printed in our last issue:—

Bishops Castle, Shropshire.—Mr. S. Hale Puckle, B.A.Camb., M.B., C.M.Edin., was born in 1859 in Victoria, Australia, and was educated at the Geelong Grammar School, at Trinity Hall, Cambridge, and at Edinburgh University. After qualifying he held the post of resident physician at the Simpson's Memorial Hospital, Edinburgh, and afterwards was resident physician to the Edinburgh Royal Hospital for Sick Children and physician to East Richmond-street Dispensary, Edinburgh. In 1887 he settled in Bishops Castle and became a councillor in 1896. He was chairman of the Sanitary Committee 1897–98 and 1898–99, and a member of the Finance, Highways, and Watch Committees. In politics he is a Liberal Unionist.

Blackpool.—Mr. George Chadwick Kingsbury, M.A., M.D., B.Ch., M.A.O.T.C.D., was born in Dublin in 1859. He took many prizes and graduated in honours in the Arts School of the University of Dublin. He was Prosector to Professor Alexander Macalister and took first place in the M.B. examination. He held the post of house surgeon and physician at Sir P. Dun's Hospital and acted as assistant to Sir Edward Sinclair. In 1883 he settled in Blackpool. At the present time he is chairman and consulting physician to the Victoria Hospital. Dr. Kingsbury, who has on four occasions been returned to the Council, is the youngest mayor who has held the civic chair in Blackpool. He is much interested in sanitation and has been chairman of the Watch Committee. He founded the Fylde Medical Society, of which he has been President and honorary secretary.

Dewsbury.—Mr. Robert Beattie, M.D., M.Ch. R.U.I., after qualifying in 1876 went to Northleach, Gloucestershire, for a couple of years to assist Dr. Webb and was also assistant medical officer to the workhouse there. He then went to the Loughborough Infirmary and Dispensary as house surgeon for over two years. After this he settled down in private practice in Canterbury, but only remained there a year or two. Over 15 years ago he went to Dewsbury. The sanitation and water-supply of that town have engaged his attention for many years and three years ago he was persuaded to enter the Town Council. Four years ago he was appointed medical officer of health to the Soothill Upper District Council and about the same time he was appointed honorary surgeon to the Dewsbury and District Infirmary.

Harrogate.—Mr. J. A. Myrtle, M.D.Edin., J.P., late consulting physician to the Harrogate Bath Hospital, joined the town council three years ago, since which time he has advocated the purchase of the spa grounds at Harlow Moore and identified himself with other progressive municipal movements such as the extension of electric lighting works.

Lostwithiel.—Mr. Robert Barclay-Allardice was born at Hamilton, Canada, and lived in the United States from 1850 to 1869. He holds American degrees of M.A. and M.D. In 1893 he was elected a Town Councillor without opposition.

Newark.—Mr. Frederick Henry Appleby, M.R.C.S.Eng., L.S.A.Lond., was a student of University College, London, and qualified as M.R.C.S. and L.S.A. in 1864. After holding the post of clinical assistant at the Brompton Hospital he obtained the house surgeoncy at Newark, and on the completion of his term of office joined a firm of surgeons in the town (Messrs. Job, Matterson, and Appleby), where he is still in practice. He is surgeon to the Newark Hospital and has been a member of the Town Council for nine years,

taking an active part on the sanitary and waterworks committees. Mr. Appleby is a Justice of the Peace for the borough, an Honorary Associate of the Order of St. John of Jerusalem, and an energetic volunteer, being the senior medical officer of the North Midland Brigade, and holding as such the rank of Brigade Surgeon-Lieutenant-Colonel.

Worthing.—Mr. Frank Parish, M.R.C.S. Eng., L.R.C.P. Edin., was born at Erith in 1856 and was educated at Tonbridge School. He afterwards studied at University College Hospital and subsequently held besides the usual minor posts that of ophthalmic assistant and electro-therapeutic assistant. Later he was appointed house surgeon to the West Kent General Hospital. In April, 1880, he purchased the practice of the late Mr. Cleveland Smith at Worthing and was soon after appointed Admiralty surgeon and agent and also surgeon to the Worthing division of police. In November, 1898, he was elected mayor of Worthing and re-elected this year. He was appointed a justice of the peace for the county of Sussex in October last.

ENGLISH LAGER BEER.

THE installation of large plant and machinery in this country for the production of a light beer known generally as "lager" is an event of considerable importance in its relation both to the nation's dietetics and its moral welfare. It is a satisfactory sign that a very decided and distinct demand has arisen in this country for lighter alcoholic beverages and we have often urged in these columns that this demand, in the interests of temperance and hygiene, should be met. But, apparently, English brewers did not trouble themselves to undertake this departure, for it meant to some extent, probably, the abandonment of old-established and expensive machinery and the adoption of new methods and plant. The demand, however, has forced itself upon the great English brewing industry and no better evidence of this fact is afforded than in the circumstance that Messrs. Allsopp and Son of Burton-on-Trent have recently completed a lager beer brewery on their premises which is said to be capable of turning out from 50,000 to 60,000 barrels per annum. We have already referred briefly to the system in THE LANCET of Oct. 21st, 1899, but we return to the subject, as we then promised, in order that our readers may obtain some idea of the interesting and scientific process which has been adopted at Burton.

The process is known as the Pfaudler vacuum system of fermentation—a system which was first employed in the breweries of New York, and although it is very extensively adopted in Germany, North and South America, and Australia, the installation at Messrs. Allsopp's brewery at Burton represents the first of its kind introduced into this country. The essential advantages of this system are that the principal and secondary fermentative processes are combined and completed in one operation and the beer comes direct from the machine matured, perfected, and ready for the market. The fermentation by the Pfaudler system is finished in about seven days, while on the old lines it used to take three months. The whole operation from vat to bottle does not involve more than three weeks. There are steps in the process worthy of note from the hygienic point of view. Thus the beer, unlike similar German-made beer, is not exposed to what may easily be contaminating influences of the external air. Filtered air only is used and the vats are constructed of glass-enamelled steel instead of wood. These tanks are vacuum tight so that the possibility of access of dust and dirt is absolutely avoided, and perfect cleanliness thus being ensured a pure and remarkably bright beer is the result. The fermentation proceeds at a low temperature, the yeast working at the bottom of the vat instead of, as in the English process, at the top under conditions of higher temperature. It is the employment of so-called bottom yeast instead of "racy yeast" which gives to lager beer its peculiar character. The air passed into the tanks is cooled by an ammonia ice machine and the fermentation rooms are kept at a uniform temperature all the year round, and for this purpose two 75-ton ammonia ice machines which will produce 10 tons of ice per day have been constructed. During fermentation the carbonic acid gas as it is evolved is withdrawn and may be stored as a natural agent wherewith to recharge the beer. The sterilised air which takes its place operates favourably on the process, causing an incessant and beneficial rousing of the beer. The apparatus used for bottling the beer and for filling casks is extremely ingenious, obviating all contact with objectionable matters. As to the beer itself, it is made in two kinds—a light beer simulating Pilsener and a dark kind simulating Munich beer. It keeps well and maintains its brilliancy and agreeably effervescing quality. Its flavour is delicately malty, while the beer is very clean on the palate, a property which is so characteristic of the best lager beers of the continent. We have made what is for all practical purposes a fairly complete analysis of the two kinds of beer in THE LANCET Laboratory and the following are the results:—

	Light beer.	Dark beer.
Total extractives	5·67 per cent.	6·84 per cent.
Mineral matter	0·25 ,,	0·28 ,,
Dextrine	1·58 ,,	2·27 ,,
Maltose	1 80 ,,	2·12 ,,
Proteids	0·45 ,,	0·48 ,,
Total acidity	0·12 ,,	0·15 ,,
Alcohol by weight	3·97 ,,	3·97 ,,
,, ,, volume	4·93 ,,	4·93 ,,
Equal to proof spirit	8 64 ,,	8·64 ,,

For the sake of comparison we append the composition of typical bitter beer:—

	Composition of typical bitter beer.
Total extractives	5 42 per cent.
Mineral matter	0 33 ,,
Dextrine	2·60 ,,
Maltose	1·62 ,,
Proteids	0·16 ,,
Total acidity	0 18 ,,
Alcohol by weight	5 44 ,,
,, ,, volume	6 78 ,,
Equal to proof spirit	11·89 ,,

There are differences of composition here of interest both from the dietetic and the temperance point of view. Thus, the proportion of proof spirit is decidedly lower in the lager beer than even in ordinary light bitter beer. The bulk of heavier English beers, however, may contain as much as 15·27 per cent. of proof spirit—that is, nearly twice as much alcohol. While this is so the proportion of nourishing constituents in lager beer, as exemplified in the maltose, dextrine, and proteids, is the same as in heavy ales. We could trace no objectionable preservatives in the beer, while it keeps perfectly sound and bright. Further examination proved the absence of hop substitutes.

We have dealt with this subject at some length because the question of the suitability of a beverage is one which constantly confronts the medical man in deciding upon a regimen for his patient. We have here, as shown in the analysis, a beverage of a light character, of excellent palatability, wholesome, and refreshing, in which the drawbacks of heavy beers do not obtain. The subject is worthy of prominence, too, because of the need of lighter alcoholic liquors, and the belief may be confidently expressed that in supplying this need an important step has been taken in the direction of temperance reform.

THE LANCET Laboratory.

LUNACY IN IRELAND.

THE annual report for 1898 of the Inspectors of Lunatics in Ireland shows a total of 20,304 patients under official cognisance. Of these 10,522 were males and 9782 were females. Lunatics residing as private patients in single care are not included in this estimate. The total increase of lunatics for the year—viz., 714—was larger than that for 1897, which was 624, and also exceeded the average annual increase for the previous decade—viz., 444. The total admissions to district asylums have increased by 184 during the year and this increase has taken place both in the first admissions and the re-admissions, the increase in the former being 125 and in the latter 59, as compared with the previous year. No provision exists in Ireland by which any returns

can be obtained of pauper lunatics wandering at large or residing with relatives except through the decennial census.

Returns from the latter source showed that the total number of lunatics and idiots returned was equal to a ratio of 1 in 657 of the population in 1851, while in 1861 it was 1 in 411, in 1871 it reached to 1 in 328, in 1881 to 1 in 281, and in 1891 to 1 in 222. The counties having the highest ratios were: Meath, 1 in 126; Carlow and Kilkenny, each 1 in 149; Westmeath, 1 in 157; Waterford, 1 in 160; Clare, 1 in 168; and King's, 1 in 173. The lowest ratios found were in Galway, 1 in 269; Donegal, 1 in 257; and Louth, 1 in 251.

Regarding medical officers it is now enacted that pursuant to Section 84 of the Local Government Act of Ireland no such officers shall be appointed or removed, nor shall any salary be paid or altered, without the concurrence of the Lord Lieutenant—a provision which renders the actions of local committees subject to veto. The granting of superannuation allowances, which has hitherto required the approval of the Board of Lunacy Inspectors and that of the Lord Lieutenant in Council, is now vested solely in the local authorities. Important provision is also made for the accommodation and treatment of private patients in public institutions and for chronic and harmless lunatics either in separate asylum buildings or in disused workhouses.

The number of patients discharged as recovered was 1279, which is 12·1 per cent. of the annual number of patients. The number of deaths amounted to 1105, or 10·5 per cent. as calculated on the same basis. 41 deaths were attributed to general paralysis, 49 to "organic disease," 97 to debility and old age, and 339 to phthisis, not including a large number attributed to other pulmonary diseases. Four deaths at the Dublin Asylum were due to beri-beri. The wide prevalence of pulmonary tuberculosis and the huge mortality arising from it again bring forward prominently before us the necessity of urging measures to be adopted for its limitation, especially as regards Ireland, and in reference to which special attention has been drawn in these columns. [1]

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

IN THE LANCET of Nov. 18th we were able to give only a brief account of the proceedings at the annual meeting of the Fellows and Members on Nov. 16th, as the meeting was held but a short time before we went to press. The following is a fuller account.

The senior Vice-President, Mr. H. G. HOWSE, took the chair in the absence of the President, Sir WILLIAM MAC CORMAC, Bart., K.C.V.O., who had left England for South Africa.

The CHAIRMAN, in presenting to the meeting the annual report of the Council, referred especially to the arrangements which had been made for the celebration of the centenary of the granting of the charter to the College, mentioning that July 25th, 26th, and 27th, 1900, had been fixed as the dates of the celebration. He also reported that at the last meeting of the Council they had acceded to the wish which had been expressed at the last annual meeting and had granted to Members of the College the right to wear a gown for ceremonial occasions, but they had decided to leave to the good sense of the Members to decide what constituted a "ceremonial occasion."

In reply to a question from Surgeon-Major INCE the CHAIRMAN stated that no definite reply had yet been received to the petition for a new charter by which diplomas of Honorary Fellowship could be conferred.

Mr. JOSEPH SMITH, in rising to propose the first motion, commenced by referring to the general appreciation of the patriotic action of the President of the College, Sir William Mac Cormac, in proceeding to the seat of war in South Africa, and he expressed the wish, felt by all, that their President might return in safety. He then read his motion as follows:—

> That this meeting regrets that the Council, having called a meeting of Fellows and Members in July last ostensibly to consider the terms of a supplementary charter, should have entirely disregarded the principal resolution then adopted; and this meeting further considers that the introduction into the centenary charter of some provision for the representation of Members would have been most opportune, and trusts that the Council will even yet seize this unique occasion of terminating by an act of grace a long and wearisome controversy.

He said that it was a great pity that the Council did not avail themselves of the very fit occasion of an application for a new charter to grant some representation to the Members; if this had been done it would have put an end to a wearisome controversy and would have added to the dignity of the College. Even yet it was not too late. It was difficult to say anything new about the matter; all were well acquainted with the facts, for the subject had been worn threadbare. The Society of Members had petitioned the Privy Council against the granting of the new charter for conferring honorary diplomas and had also requested to be heard by counsel, but this latter request had been declined on the ground that as the petition by the Council referred only to the granting of honorary diplomas the question of the representation of the Members of the College on the Council could not be considered. He was inclined to think that the conferring of honorary diplomas by the Council constituted as it was would not be an honour.

Dr. HERBERT SNOW seconded the motion and pointed out that the principle of representation had been universally admitted for a long series of years. The granting to the Members of representation on the Council would benefit not merely the Members of the College but the whole medical community.

Dr. F. H ALDERSON (Bournemouth) said that the country surgeons were at one with them in desiring this representation. At present the Members of the College had no status at all.

Mr. T. G. HORDER (Cardiff) mentioned that this was the first occasion on which he had attended a meeting at the College and he had come because he felt the justice of the Members' claim. This would be a very good opportunity for conferring representative powers on the Members and it would be a very graceful act on the part of the Council.

Mr. FREDERICK COLLINGWOOD asked the Council for some real tangible reason why the Members should not be represented. At the present day the essence of every public institution was acknowledged to be representation.

Surgeon-Major INCE considered that the motion implied a vote of censure on the Council. He was in favour of some form of representation, but it should be limited to those who had been Members for 15 or 20 years.

Sir THOMAS SMITH mentioned that the Council had on two separate occasions consulted the Fellows as to the desirability of the Members being represented on the Council and on each occasion there had been a large majority against the proposal. The Fellows were the elective body and no representation could be given to the Members without the consent of the Fellows. He himself was in favour of the Members being represented, and he thought it probable that the question would be put to the Fellows again shortly.

Sir ROBERT CRAVEN thought that if the Council were to suggest to the Fellows that the time had come for the Members to have representation there could be little doubt that the vote would be in favour of the extension of the franchise.

Mr. GEORGE BROWN did not consider that on the last occasion the votes of the Fellows had been taken fairly, for the wording of the questions suggested that the Council were not in favour of the representation of the Members.

The CHAIRMAN thought it due to the Council to state that on the committee appointed to draw up the questions for the Fellows there was a large majority of those in favour of the Members being represented, and he hoped that these accusations of unfairness on the part of the Council would not be made after his explanation.

Mr. J. V. BELL (Rochester) suggested that the Council should put before the Fellows a series of schemes for the representation of the Members and ask the Fellows to state which they preferred.

Mr. BARKER urged that since 1886, when the College joined the Royal College of Physicians of London in examining, it had ceased to be a purely surgical body, and therefore there should be a joint consultative committee to decide on all questions affecting general practitioners.

Mr. HERBERT PAGE said that, though he had a few years ago proposed a motion in favour of the Members being represented on the Council, he would be unable to vote for the present motion, as all would agree that it was desirable to grant honorary Fellowships, and therefore he could not think the occasion was "most opportune," as the motion put it for applying for powers to grant representation to

[1] THE LANCET, July 15th, 1899, p. 167.

the Members. He thought that the Members had made a tactical error in bringing forward this motion.

Mr. JOSEPH SMITH explained that it would be necessary to apply for a new charter before the Members could be represented on the Council, and therefore, as a new charter was being applied for, the present occasion was certainly opportune.

Mr. R. B. ANDERSON said that if the Council had been in favour of including the representation of the Members in the petition for a new charter the Privy Council would not have opposed it in any way.

The motion was then put to the vote, and 42 voted in favour of it and six against.

Mr. W. G. DICKINSON then moved the second motion :—

That, in the opinion of this meeting, no Fellow or Member of the College ought to be allowed to act as medical officer to any association (whether a registered friendly society or not) which has for one of its objects the provision of medical attendance, and which in pursuance of that object advertises and canvasses for patients; and the Council is once more urged to announce that the holding of such appointments is contrary to the declaration made by Fellows and Members on their admission.

He read the declaration mentioned in the motion and related several cases, especially one at Plymouth, in which the Council had declared their inability to prohibit the connexion of Members of the College with associations which were registered under the Friendly Societies Act; but Mr. Dickinson pointed out that the actions complained of were performed by the National Medical Aid Society, which was not registered, therefore the Council was not justified in saying in the annual report that the information supplied to them by the association was "unauthentic." He called upon the Council to amend their by-laws so as to be able to deal with these cases, as had already been done by the sister College in Dublin.

Mr. BRINDLEY JAMES seconded the motion and expressed the opinion that these medical aid societies were very detrimental to the medical profession. The clerical medical aid societies were especially harmful and the canvassing was done by curates.

Dr. M. BEVERLEY (Norwich) gave an account of what had been done in Norwich. The Medico-Chirurgical Society of that city had resolved that no member of the society should hold any medical aid appointment or consult with any holder of such an appointment, and more recently the associations had been named, so that there could be no doubt about them in the minds of any Member. The East Anglian Branch of the British Medical Association had also decided that they would admit no one who was connected with any medical aid association.

Mr. FREDERICK COLLINGWOOD insisted on the loss of dignity to the holder of one of these appointments; he became a slave who undertook to treat more cases than he could possibly treat. It was harmful to the profession and to the public.

Mr. MORTON (Putney) accused the medical aid associations of putting on their lists unhealthy lives so that the healthy poor were robbed.

Mr. T. G. HORDER said that the General Medical Council should declare the holding of such a post to be infamous conduct in a professional respect.

Mr. JOSEPH SMITH asked for a general pronouncement by the Council that they would consider the connexion with a medical aid society as infamous.

The CHAIRMAN pointed out that there were great difficulties in the way of any such general pronouncement. A friendly society was a legal body and therefore the Council could not make a by-law which should be in opposition to an Act of Parliament. The true solution would be found in an alteration of the existing law. The Council fully felt the importance of the matter, but they could not go against the law.

Mr. GEORGE BROWN said that the Council should have invited Members to give information as to the practical aspect of the question.

The motion when put was carried by 44 votes to 1.

Mr. GEORGE BROWN then moved :—

That this meeting regrets that the report of the Council regarding the registration of midwives has not been laid before it. This meeting trusts that the Council will adopt the principle that no person, male or female, shall be recognised as qualified to practise midwifery who is not also qualified in medicine and surgery.

He explained that in recent years various bodies, especially the London Obstetrical Society, had been granting diplomas to various persons to practise midwifery and these women were not qualified in medicine and surgery. This was against the wish of the Legislature, which had decided that any person practising must be qualified in medicine, surgery, and midwifery. The number of diplomas issued was very great. These midwives were instructed to call in skilled assistance in difficult cases, but it would frequently be too late.

Dr. ALDERSON seconded and pointed out that the public would suffer, as medical men were not able to get sufficient practice in midwifery.

Mr. BARRETT described how a midwife had recently set up in his neighbourhood and was getting all the practice. A Fellow of the College was called in by her to difficult cases.

Mr. JOSEPH SMITH hoped that the College of Surgeons would act if any Midwives Bill came before Parliament. He thought that the Council should have mentioned the subject in their annual report.

The CHAIRMAN explained that the subject was fully considered in last year's report and the Bill which would probably be brought forward had been approved by the General Medical Council.

Mr. GEORGE BROWN stated that he had never voted in favour of the Bill at the General Medical Council.

Sir ROBERT CRAVEN said that medical men would soon have no midwifery cases.

The resolution was carried *nem. con.*

Mr. W. HENRY DAY then moved :—

That this meeting of Fellows and Members of the College would respectfully urge on the Council the desirability in the future of due notice of the annual meeting of Fellows and Members being given by the College to each Fellow and Member living within the postal district of London by post-card or otherwise.

He considered that the present method of summoning the meetings was very unsatisfactory. Very few of the Members ever heard of the meetings or saw the notices concerning them. It was desirable to have as large meetings as possible. There were about 5000 Members in London and altogether the expense would not exceed £20.

Mr. JOSEPH SMITH seconded the resolution and suggested that a *résumé* of the report should be printed on the post-card.

Sir ROBERT CRAVEN could not see any reason for favouring the London Members.

Dr. SNOW suggested that the words "living within the postal district of London" and "card" should be removed and the words "together with a copy of the report" be added.—This amendment was adopted and the resolution was carried without a dissentient.

Mr. DICKINSON proposed a vote of thanks to the Chairman.—This was warmly agreed to.

THE NEW CONVALESCENT HOME AT BRISTOL.

THE new Convalescent Home at Bristol which was opened by the Queen on Nov. 15th[1] possesses several special features which are certain to commend themselves to the governing bodies of public hospitals and infirmaries in other large towns. The convalescent home as a most useful adjunct to a large hospital has now been recognised for some years and more than one hospital has such a home under its own management and exclusively for its own patients. But in every instance they are situated at a considerable distance—often many miles—from the parent institution. It has been left, therefore, to the Bristol citizens to conceive and to carry to a successful issue a project for establishing a convalescent home actually within the boundaries of their own city. The advantages of this proximity to the homes of the patients who will occupy the institution are many; a few only need be emphasised. The convalescent patient having a short and easy journey before him can be removed at an earlier period than if he has to undergo the fatigue and risk of travelling several miles in a railway carriage; he can have the continued attendance and remain under the supervision of the staff attached to the hospital from which he is brought; and, lastly, he will hesitate the less to consent to removal if his friends can visit him as readily as they did during the acute stage of his illness.

[1] THE LANCET, Nov. 18th, p. 1388.

A sum of £100,000 has been subscribed towards the establishing and endowment of the Bristol Home, the actual building—which was originally intended for a high-class boarding school for boys—having been presented by Mr. Edward Wills who on the opening day was created a K.C.B. It is situated in three acres of grounds on the borders of Durdham Downs. There is accommodation for 80 patients—45 men and 35 women and children. 30 beds have been allotted to patients from the Bristol Royal Infirmary, 30 to those from the Bristol General Hospital, three to those from the Bristol Dispensary, and one each to those from the Bristol Eye Hospital and from the Clifton Dispensary, and the 15 beds remaining are intended for patients who may not have been treated in any of these institutions but who may not have been treated in any of these initiations but who may properly receive benefit from a short residence in the home; from these last a payment will be expected. Unless for exceptional reasons the maximum stay of each patient in the home will be three weeks. There will be no resident medical officer. The staff is to consist of a matron, two nurses, three probationers, and a domestic staff including two laundry maids and nine servants. The wards are not large and vary in their accommodation from four to nine beds, the air space per bed is rather under 1000 cubic feet. The men and the women respectively have a good-sized sitting-room well furnished with couches and easy chairs, the walls of which are adorned with framed engravings and the bookshelves are stocked with books. The men have in addition a smaller sitting-room and a smoking-room. All the patients will take their meals together in a large dining-hall, adjoining each end of which is placed a cloak-room and lavatories. The kitchens are separated from the dining-hall by the main corridor. A small coal cooking-range has been fixed in the scullery, but it is proposed to cook entirely by gas or steam, a fairly complete gas cooking-plant with stoves, hot-plate, and hot cupboard having been laid down. The building is everywhere lighted with electric light and the corridors and rooms are all heated with steam pipes and radiators, but it is noticeable that in several of the wards, in some of the bedrooms of the staff, in the smoking-room, and in the dining-hall there are no open fireplaces. There is an air of comfort and homeliness about the whole building not always to be found in such institutions.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6822 births and 3785 deaths were registered during the week ending Nov. 18th. The annual rate of mortality in these towns, which had been 21·1, 18·8, and 18·0 per 1000 in the three preceding weeks, further declined last week to 17·3. In London the rate was 17·5 per 1000, while it averaged 17·2 in the 32 provincial towns. The lowest death-rates in these towns were 11·5 in Burnley, 11·7 in Halifax, 12·3 in West Ham, and 12·6 in Cardiff; the highest rates were 21·2 in Liverpool, 21·4 in Sheffield, 22·4 in Blackburn, and 25·3 in Preston. The 3785 deaths in these towns included 422 which were referred to the principal zymotic diseases, against 429 and 450 in the two preceding weeks; of these 117 resulted from diphtheria, 98 from "fever" (principally enteric), 83 from measles, 52 from diarrhœa, 36 from whooping-cough, 30 from scarlet fever, and six from small-pox. No fatal case of any of these diseases occurred last week in Swansea or in Halifax; in the other towns they caused the lowest death-rates in Plymouth, Oldham, Burnley, and Huddersfield; and the highest rates in Leicester, Blackburn, Sheffield, and Hull. The greatest mortality from measles occurred in Birkenhead, Blackburn, Preston, Bradford, Sheffield, and Hull; from "fever" in West Ham, Croydon, Nottingham, and Preston; and from diarrhœa in Bolton. The mortality from scarlet fever and from whooping cough showed no marked excess in any of the large towns. The 117 deaths from diphtheria included 56 in London, 14 in Sheffield, eight in Leicester, eight in Liverpool, and seven in Leeds. Six fatal cases of small-pox were registered last week in Hull, but not one in any other of the 33 towns, and only one small-pox patient was under treatment in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, Nov. 18th, was 3578, against numbers increasing from 2538 to 3564 on the 11 preceding Saturdays; 334 new cases were admitted during the week, against 414, 331, and 328 in the three preceding weeks. Influenza was certified as the primary cause of 18 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had been 477, 418, and 325 in the three preceding weeks, further declined to 324 last week, and were 88 below the corrected average. The causes of 34, or 0·9 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Manchester, Leeds, Newcastle, and in 15 other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Blackburn, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·8 and 17·0 per 1000 in the two preceding weeks, rose again to 19·0 during the week ending Nov. 18th, and exceeded by 1·7 per 1000 the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·5 in Perth and 16·6 in Dundee, to 21·3 in Greenock and 21·5 in Aberdeen. The 580 deaths in these towns included 24 which were referred to diarrhœa, 19 to measles, nine to scarlet fever, eight to "fever," six to whooping-cough, and five to diphtheria. In all 71 deaths resulted from these principal zymotic diseases, against 92 and 44 in the two preceding weeks. These 71 deaths were equal to an annual rate of 2·3 per 1000, which was 0·4 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of diarrhœa, which had declined from 27 to 14 in the three preceding weeks, rose again to 24 last week and included seven in Glasgow, five in Dundee, four in Edinburgh, and four in Aberdeen. The deaths from measles, which had been 26 and eight in the two preceding weeks, rose again last week to 19, of which 12 occurred in Glasgow and five in Greenock. The fatal cases of scarlet fever, which had been 11 and three in the two preceding weeks, rose again to nine last week and included seven in Glasgow. The deaths referred to different forms of "fever," which had been 13 and 11 in the two preceding weeks, further declined last week to eight, of which six occurred in Glasgow. The fatal cases of whooping-cough, which had been seven and three in the two preceding weeks, rose again to six last week, and included three in Glasgow. The five deaths from diphtheria corresponded with the number in the preceding week, and were all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had increased from 84 to 118 in the four preceding weeks, further rose to 131 last week, but were slightly below the number in the corresponding week of last year. The causes of 18, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 32·2 and 37·1 per 1000 in the two preceding weeks, declined again to 37·0 during the week ending Nov. 18th. During the past four weeks the death-rate in the city has averaged 35·7 per 1000, the rate during the same period being 18·6 in London and 18·0 in Edinburgh. The 248 deaths registered in Dublin during the week under notice were within one of the number in the preceding week, and included 72 which were referred to the principal zymotic diseases, against 51 and 55 in the two preceding weeks; of these, 51 resulted from measles, nine from "fever," five from diarrhœa, three from diphtheria, two from scarlet fever, two from whooping-cough, and not one from small-pox. These 72 deaths were equal to an annual rate of 10·8 per 1000, the zymotic death-rates during the same period being 2·0 in London and 1·0 in Edinburgh. The fatal cases of measles, which had been 38 and 39 in the two preceding weeks, further rose to 51 last week. The deaths referred to different forms of "fever," which had been two and five in the two preceding weeks, further rose last week to nine. The fatal cases of diarrhœa, which had been six in each of the two preceding weeks, declined last week to five. The three deaths from diphtheria corresponded with the number in each of the two preceding weeks. The mortality from scarlet fever was

slightly in excess of that in recent weeks. The 248 deaths in Dublin last week included 42 of infants under one year of age and 39 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Five inquest cases and six deaths from violence were registered, and 82, or nearly a third, of the deaths occurred in public institutions. The causes of nine, or nearly 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

FLEET-SURGEON HENRY WILLIAM DUFFIELD WALSH has been placed on the Retired List of his rank.

ARMY MEDICAL STAFF.

Surgeon-General William Nash is placed on retired pay. Colonel George H. Evatt, Royal Army Medical Corps, to be Surgeon-General, vice W. Nash.

INDIA AND THE INDIAN MEDICAL SERVICES

Bengal Establishment: Lieutenant-Colonel William Hotson Cadge and Lieutenant-Colonel Sir George Scott Robertson, K.C.S.I.

VOLUNTEER CORPS.

Rifle: 1st Herefordshire: John Jamieson Wallace to be Surgeon-Lieutenant. 3rd (the Buchan) Volunteer Battalion the Gordon Highlanders: Surgeon-Lieutenant A. F. Trail resigns his commission.

TRANSVAAL WAR NOTES.

We understand that the two surgeons in charge of the Ambulance Medical Corps which has been organised by Sir James Sivewright in aid of the sick and wounded irrespectively of race, creed, or colour, are accompanied by some half-dozen surgeons of whom all but one are Dutch in race. In contrast to this the unpatriotic appeal of the Irish Transvaal Committee for funds to enable them to send out an ambulance in the Boer service needs no comment.

With regard to the *Trojan*, Transport No 10, and the *Spartan*, Transport No. 11, all the arrangements for the care of the sick and wounded are under the direction of the medical officer in charge, whose wishes are to be followed by the master, and the medical officer in charge, when no troops are embarked, is to be considered as the military commanding officer under the transport regulations.

We understand that Messrs. Harry W. Cox, Limited, of 10, 11, and 28, Cursitor-street, Chancery-lane, W.C., have supplied complete x-ray outfits to the hospital ships the *Princess of Wales*, the *Spartan*, and the *Trojan*. Similar outfits have also been supplied for field work, particular attention being given to the portability of the apparatus, while its efficiency has been thoroughly tested before despatch.

The fifth supplementary division for service in South Africa is now practically complete. Nos. 6 and 16 Companies and the Depôt Company, Royal Army Medical Corps, are expected to leave England between the end of the present month and the first week in December.

Surgeon C. Marsh Beadnell of the *Powerful* is with the Naval Brigade at Ladysmith.

Among the gifts which have been announced for aid to the sick and wounded is the magnificent sum of £10,000 which the Duke of Portland has generously given to the Red Cross Society. The Mayor of Rawtenstall, who had been asked for a gift of 500 pairs of hospital slippers, has promised 5000 pairs. Fifty cases of cognac brandy have been given to the British Red Cross Society by Veuve George Furland and Co. of Cognac.

The London Provident Surgical Appliance Society has resolved to grant gratuitously surgical appliances to any persons who on their return to England shall make application for the same on *bonâ-fide* testimony that their injury was sustained while serving with the British forces in the present war.

The *Princess of Wales* hospital ship is owned by the Albion Steamship Company, Newcastle-on-Tyne, who appoint and are paying the ship's company. The ship has been carefully fitted for her new rôle of floating hospital. Special trestles have been constructed on the promenade deck for the support of cots placed there and all the wards are connected by electric bells with the quarters of the medical officers and nursing sisters. Electric lighting is used throughout the ship and portable electric lights are provided for use in the operating-room, dispensary, and stores. Warming is done by steam-pipes, and cooling is carried out by means of electrically-worked fans. There is machinery on board sufficient to make half a ton of ice per diem. A complete laundry plant and a very complete water-supply are provided. Salt water is laid on to all baths, latrines, and sinks, and fresh water to all wards, lavatories, fixed washhand basins, operating-room, dispensary, troop-deck, and laundry. All drinking-water taps are supplied with Berkefeld tap-filters. The hospital establishment is as follows:—

Senior Medical Officer and Military Commanding Officer—Major A Hickman-Morgan, D.S.O., R.A.M.C.(R.P.).
Medical Officers.—Captain A. Pearse, R.A.M.C.; Mr. W. H. Farmer, Mr. W. S. Crosthwaite, Mr. L. E Hardy, Civil Surgeons.
Nursing Sisters.—Miss C. Chadwick, Army Nursing Service; Miss A. Brebner, Miss H. Hogarth, Miss A. Spooner, Army Nursing Reserve.
Royal Army Medical Corps.—One staff sergeant (as warrant officer); two sergeants*; four corporals*; ten privates.
St. John Ambulance Brigade.—Three Ambulance Supernumerary Officers; ten Ward Orderlies, 1st Grade; ten Ward Orderlies, 2nd Grade.
* To act as compounders, storekeepers, hospital steward, clerk, and assistant wardmasters.

DEATHS IN THE SERVICES.

Major Arthur Harding (retired list), R.A.M.C., aged 51 years. He joined the army in 1878 and became surgeon-major in 1890. He served in the Zulu war, 1879, in medical charge of the 57th Regiment and was present in the engagement at Ginginhlovo and at the relief of Ekowe (medal with clasp). In the Boer war, 1881, he was in medical charge of Fort Marabastadt (mentioned in despatches); and he was subsequently at Pretoria and Standerton until the withdrawal of the British troops. He served in the Egyptian war of 1882 with No. 2 Bearer Company, and was present at the action of Kassassin on Sept. 9th and at the battle of Tel-el-Kebir (medal with clasp and Khedive's star). He served in the Nile expedition of 1884–85, and accompanied the desert column under Sir Herbert Stewart, and was present in the actions of Abu Klea and Abu Kru and in the reconnaissance before Metemmeh (mentioned in despatches, two clasps).

Deputy-Inspector-General Henry Loney (retired) on Nov. 7th, aged 76 years. He became surgeon in 1846, staff-surgeon in 1856, and fleet-surgeon in 1869, and retired with a step in rank in 1881. He was surgeon of the *Stromboli* in 1849–51 and of the *Vestal* in 1852–56; staff-surgeon of the *Medusa* in 1856–60, of the *Severn* in 1862–66, and of the *Royal George* in 1867–70; and fleet-surgeon of the *Minotaur* in 1876–78 and of the Plymouth Division Royal Marine Light Infantry in 1878–81.

SURGEON-GENERAL W. NASH, R.A.M.C.

As announced above, by a recent gazette Surgeon-General W. Nash, R.A.M.C., has been placed upon retired pay, and Colonel G. H. Evatt, R.A.M.C., has been promoted to be Surgeon-General to fill up the vacancy in that rank. By the retirement of Surgeon-General Nash the Army Medical Service loses a deservedly popular and excellent officer, who saw field service in the Afghan war of 1878–80 and in the Egyptian war of 1882, in addition to having filled several important and responsible posts in this country served in Egypt as principal medical officer at Cairo. At the time of his retirement Surgeon-General Nash was the principal medical officer at the Royal Victoria Hospital, Netley.

THE RED CROSS IN SOUTH AFRICA.

The despatch of large military forces from this country to South Africa in consequence of the Boer rebellion has given rise to extraordinary manifestations of charitable interest not only in the welfare of our troops proceeding to the seat war but in the guarding of their wives and families against want during their absence. It is naturally a source of great gratification to everyone to see the nation fully recognising its duty to soldiers and reservists in this respect and responding so munificently. The Red Cross Societies have also vied with one another in sending out aid to the sick and wounded in South Africa. The National Aid Society, whose offices are at 5, York-buildings, Adelphi, London, W.C., have published a summary of what has been organised by their committee up to the present time and they asked those interested in the work to confine themselves to contributions to their funds as they have no

further need at present of personal assistance or of ambulance material as a supplementary aid to the medical services in the field. Colonel J. S. Young has already proceeded to South Africa provided with funds and material to act on the spot in coöperation with the principal medical officer of the field force. A hospital ship is being fitted out, equipment for hospital trains has been forwarded to Durban, trained nurses for hospitals have been provided or made available from an army nursing reserve, and the St. John Ambulance Brigade is prepared to meet the field requirements with a supply of ambulance officers and hospital orderlies, not to mention a number of other details of various kinds.

THE QUEEN'S PERSONAL PRESENT TO THE TROOPS.

Her Majesty has with kindly thought made arrangements for every man serving in South Africa to be supplied with a special tin containing ½ lb. of chocolate. The chocolate will be in such a form that it can be eaten as a sweetmeat or taken as a beverage. The tin will be of special design and will serve as a keepsake; after the order has been executed the dies will be destroyed.

Correspondence.

"Audi alteram partem."

THE NECESSITY FOR HOSPITAL SHIPS.

To the Editors of THE LANCET.

SIRS,—We are implicated in a serious and probably prolonged war and how are we prepared to meet the consequences? As usual, we become wise after the event. We rest contented with meeting our daily wants and after war is proclaimed we meet our suddenly incurred responsibilities by makeshifts instead of having ready to hand specially constructed and arranged "hospital ships" and a specially organised and instructed Naval Ambulance Association analogous to the St. John Ambulance Association. We subsidise from passenger-carrying steamship companies large vessels, to knock them about—"convert them" is the official phrase—into hospital ships. The result is that our purpose is *very imperfectly* reached. Such steamers are generally spongy, swarming with impurities, organic and inorganic. They are often unwieldy, with corners, crevices, and angles of all kinds which harbour most injurious pests. Further, they are most costly. To disinfect them—that is, remove obnoxious and injurious aerial germs—is possible, but to sterilise and render innocuous the birthplaces and habitations of these germs in old steamers is impossible. This has been proven and demonstrated so often that it seems incredible that those entrusted with the lives of others have not yet realised it.

Robert Hall (1802) wrote ("Reflections on War") that to confine our attention to the number of the slain would give us a very inadequate idea of the ravages of the sword. Again, Henri Dunant (1859) when he described the horrors of the battlefield of Solferino said that "the best organised military medical services of three of the best armies of Europe were not able to render proper help and shelter to all the sufferers at the proper time." How much worse now. The seat of the present war is a mountainous region. The ordnance and weapons used now are much heavier and more mortal than of old. Our opponents are skilled shots and determined, with little regard for life. We must meantime suffer from the disadvantage of unpreparedness, but let us not continue to do so. In THE LANCET of April 4th, 1896, I drew attention to this subject, but no heed has been taken of it. I trust the seed I now sow will fructify more successfully. I am, Sirs, yours faithfully,

Aylesbury, Nov. 21st, 1899. P. M. BRAIDWOOD, M.D. Edin.

GONORRHŒAL RHEUMATISM.

To the Editors of THE LANCET.

SIRS,—I have read Mr. Moynihan's Clinical Lecture on Gonorrhœal Rheumatism in THE LANCET of Nov. 18th (p. 1349) with much interest, but have failed to learn his views as to the pathology of the disease, nor can I agree entirely with his description of it. I have been teaching for many years that gonorrhœal rheumatism is a mild form of pyæmia due to the purulent secretion within the urethra, and that the distinguishing feature of the disorder is that it attacks a single joint in a young adult. I quite allow that if the affection is not promptly treated other joints will become affected, and I have at this moment under my care in University College Hospital a man with both knees and one wrist affected; but then it is quite clear that his left knee was first affected, and, the treatment being confined to the routine one of painting iodine over the joint, that in course of time the disease showed itself elsewhere.

The treatment of gonorrhœal rheumatism by the usual methods is notoriously tedious and unsatisfactory, but I have found that by applying belladonna and glycerine freely to the affected joint (usually the knee) and by giving quinine in five-grain doses every six hours, at the same time paying no attention to the urethral discharge and carefully avoiding the use of splints, I am able to get my patients up in a fortnight and out in three weeks, with perfectly moveable joints supported by an ordinary bandage.

I am, Sirs, yours faithfully,

Cavendish-square, Nov. 20th, 1899. CHRISTOPHER HEATH.

SUPRAPUBIC LITHOTOMY.

To the Editors of THE LANCET.

SIRS,—I should like to offer a few comments on Dr. W. J. Collins's case of suprapubic lithotomy recorded in THE LANCET of Nov. 11th, p. 1295. In the report of this case we are told that the treatment of stone in the bladder is at the present time in a transition stage. This, no doubt, is true, but the transition is not in the direction of substituting suprapubic lithotomy for litholapaxy, rather is it in the direction of restricting the field or scope of suprapubic lithotomy to very narrow limits. Mr. Gilbert Barling of Birmingham[1] has shown by carefully compiled statistics how high the rate of mortality is in suprapubic lithotomy among Europeans and I have done the same in the pages of THE LANCET[2] when recording the statistics of operations for stone in the bladder among the natives of India. Suprapubic lithotomy is an eminently suitable operation in cases of encysted stone in the bladder and also where litholapaxy is found to be impracticable by reason of great enlargement of the prostate. The consensus of surgical opinion at the present day is that the vast majority of uncomplicated calculi in patients of 50 years of age and upwards should be dealt with by litholapaxy, and this being so I trust that Dr. Collins will pardon me for considering that the surgical procedure which he carried out in the case under review was retrograde, although successful. Had he performed litholapaxy instead of extracting the stone through a suprapubic incision I feel sure that his patient would have been up and about in the course of a week, for the stone only weighed 38 grains, and the operation would have been completed in a few minutes. I have, in fact, already committed myself on this question, for in a previous communication to THE LANCET[3] I wrote: "The best operation for a boy, say, of seven or eight years, with an urethra of normal calibre suffering from the presence of a small uncomplicated stone is unquestionably litholapaxy." *Mutatis mutandis* I maintain that the same holds good and with even greater force in uncomplicated cases of stone in the aged.

Perhaps Dr. Collins will forgive me for the remark that I hardly think it is wise practice to close the incision in the bladder with silk sutures after suprapubic lithotomy. He has not told us if the sutures included the mucous membrane. If they did they are liable to act as foci for phosphatic concretions should the patient suffer subsequently from catarrh of the bladder.

I am, Sirs, yours faithfully,

D. F. KEEGAN, F.R.C.S. Eng.

East India United Service Club, St. James's-square, Nov. 20th, 1899.

TOXIC SYMPTOMS PRODUCED BY INTERNAL ADMINISTRATION OF PERMANGANATE OF POTASSIUM.

To the Editors of THE LANCET

SIRS,—In THE LANCET of August 12th, just arrived, I read with great interest a case of Fatal Poisoning by Permanganate of Potassium Crystals at Westminster Hospital,

[1] Brit. Med. Jour., March 9th, 1895, p. 521.
[2] THE LANCET, Jan. 30th, 1897, p. 286.
[3] THE LANCET, Jan. 16th, 1897, p. 167.

recorded by Dr. C. K. Box and Dr. E. F. Buzzard, and their remarks on the same to the effect that such cases are of great rarity, and very little mention, if any, has been made in any of the present editions on toxicology and therapeutics. It is of particular interest to me as, by a strange coincidence, I have just had under my care a case, which terminated favourably, of poisoning, not by a large dose, but by repeated internal administrations of small doses of permanganate of potassium. Likewise I was unable to find any mention made of similar cases in any of the books on toxicology and therapeutics which I possessed, hence with your kind permission I will record the particulars of this case, hoping that it will prove of interest, not only to Dr. Box and Dr. Buzzard, but also to your readers.

On Sept. 2nd I received a hurried message to visit a married woman, aged 36 years, which was at once attended to, and on arrival I found my patient to be suffering from almost continuous vomiting, unable to retain either solids or fluids; there were great pain and tenderness on pressure over the whole extent of the abdomen, excessive thirst, congestion of the fauces, and slight difficulty in swallowing; the temperature was 100° F., the tongue was moist and pale, and the pulse was 120 per minute. There was an anxious expression of the countenance, also sleeplessness. The urine was scanty and high-coloured; the bowels were regular. There was slight tympanitic distension, and the legs were drawn up. The weight of the bedclothes caused pain over the abdomen. On questioning her I learnt that she had been in good health up to the previous day when she was attacked with vomiting and pains in the stomach which kept increasing. I could elicit no information as regards indiscretion in food or drink, but in a casual manner she stated that she had been taking pills three or four times daily, procured from a chemist, with the object of bringing on her menses which had not appeared for two months, and that these pills when broken and put in water before swallowing turned the water the colour of Condy's fluid. I ordered a mustard plaster to the pit of the stomach, to be followed by linseed meal poultices every three hours, and prescribed a mixture of bismuth, morphia, and hydrocyanic acid to be taken every two hours until the vomiting abated, and milk and soda-water to be sipped in small quantities and frequently. I took away one of the pills for examination and found it to be of large size, ovoid in shape, coated with sandarach, and should say it would contain about two grains of permanganate of potassium. On the following morning I again visited her and found no abatement of symptoms, and considering her extreme prostration almost amounting to collapse I ordered brandy and soda-water to be sipped repeatedly and continued the previous treatment. I called the same afternoon and was pleased to see a slight improvement; the brandy and soda-water were retained, also a dose of the mixture, and in consequence the pains were less severe; from this period the patient gradually improved and finally recovered in a week's time. The amount of permanganate of potassium taken by the patient during a period of four days was 22 grains.

I am, Sirs, yours faithfully,

ERNEST S. HAWTHORNE.

Georgetown, Queensland, Australia, Oct. 2nd, 1899.

"INTRA-PERITONEAL HÆMATOCELE: THE OLDER AND NEWER STATISTICS CONTRASTED."

To the Editors of THE LANCET.

SIRS,—Although my first recorded operation for tubal mole was in 1890 for several years before this I had been in the habit of sending any case of intra-uterine pregnancy to my senior colleagues for operation. In fact, the third case on which Mr. Tait operated (in 1884) was sent to him by me[1] and was, I believe, of this nature, although no one at that period had differentiated between the different forms of early ectopic gestation. In consequence I have but little experience of the treatment of intra-peritoneal hæmatocele solely by the expectant method, but (as anyone may see who examines my operation-tables) I have very considerable experience of this method, as a preliminary to operation and have often found recurrent hæmorrhages (as described in chapters v. and vi.) exhaust the patient so that the operation for removal of the cause was undertaken at last under much less favourable conditions than those which existed at the time of the first hæmorrhage. Such patients if left alone usually die at home and no post-mortem examination is held. One such case I remember in 1880.

Your reviewer[2] seems to think that a sharp line of demarcation can be drawn clinically between the cases of rupture and of tubal mole without rupture. I do not think so. On page 34 I contrast a case of rupture of the pregnant tube in which there was but little bleeding with one of tubal mole in which the bleeding was most dangerous. Because of this uncertainty before operation I have (on page 149) given my experience of *all* the cases of extra-uterine pregnancy which have come under my notice and of these (rather more than 100) I can only number six patients who recovered without operation.

It must, of course, be remembered that if these six be considered all to be examples of tubal mole with hæmorrhage from an unruptured tube[3] and be compared with this class of case only, the proportion instead of being 5 per cent. would (probably) be from 15 to 20 per cent., or even more. I have only recorded the above as my own experience, but I believe it will not be found inconsistent with that of other observers.

I am, Sirs, yours faithfully,

Birmingham, Nov. 14th, 1899. JOHN W. TAYLOR.

[1] Lectures on Ectopic Pregnancy, p. 45.

THE DIPLOMA IN PUBLIC HEALTH OF THE IRISH ROYAL COLLEGES.

To the Editors of THE LANCET.

SIRS,—I am directed to inform you that the Conjoint Diploma in State Medicine heretofore granted by these Colleges will in future be styled the Diploma in Public Health.

I am, Sirs, yours faithfully,

GREENWOOD PIM, M.A.,

Committee of Management, Dublin, Nov. 21st, 1899. Secretary.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Imperial University for India.—The Plague Epidemic.

IT will be remembered that at the beginning of the year Mr. Tata of Bombay offered the princely sum of £200,000 for the establishment of an Imperial University in India. Since that date committees and conferences have been held to determine the best form of carrying out his scheme. It is now recommended that the institution shall be called the Indian University of Research, but, for the present at any rate, it will neither be an examining body nor will it grant degrees. It is proposed, however, to grant fellowships to distinguished students. The court will probably consist of a chancellor, a vice-chancellor, one member representing the Supreme Government, one member to represent each of the eight local governments, one member for each of the five existing universities, four members to be elected by the professoriate, one member to represent Mr. Tata, and one to be added for each subsequent benefactor who may subscribe not less than Rs. 15,000. The important question which the last conference has had to decide is that of a site. There are difficulties in the way of procuring a suitable site in Bombay, but I understand that the choice finally has fallen on Bombay with Bangalore as an alternative. Bangalore has not only its climate to recommend it—an important point for an institution of the kind and for an institution to be manned by European professors whose work will be practically continuous throughout the year—but also the fact that the Mysore Government have offered a site and a contribution to the building fund. Next to the establishment of an experimental research institution on a large scale this scheme of Mr. Tata will probably prove the most valuable gift which could have been given to the people of India, and while some might have preferred an institution of the former character admiration for his foresight as well as his munificence in establishing an advanced university of the proposed character cannot be withheld.

The first case of plague in Rangoon occurred the other

[2] THE LANCET, Oct. 28th, p. 1172.

[3] But one of them was not (see p. 24).

day. A follower of the West Riding Regiment from Bangalore arrived on Oct. 19th. The case was notified to the plague medical officer and the patient was removed to the River Hospital where the usual plague symptoms were discovered. In the meantime all the troops and followers were allowed to land. This action has been the subject of much criticism.

The week's summary of plague for India shows considerable improvement. The total reported plague deaths throughout India fell from 5756 during the previous week to 3672 during the past seven days. The number of plague deaths fell in Bombay city as well as throughout the Presidency. Plague is diminishing in Belgaum, Satara, Poona, Nasik, and Ahmednagar districts, but some increase is reported in the southern Mahratta States and in the Sholapur district. More deaths from plague are reported in Calcutta. In Bangalore also plague is said to be increasing throughout the province, the attacks and deaths having increased steadily week by week since last July. This, unfortunately, is the course which an outbreak of plague seems to assume at its commencement among all large populations. Sporadic cases still continue in Karachi. At Poona the outbreak seems to have reached a minimum, but I regret to hear that a case has occurred among the plague nurses in the General Plague Hospital. The death of Colonel Hay from plague at Nasik is also reported.

Calcutta, Nov. 2nd.

MEASLES AND TYPHOID FEVER EPIDEMICS IN DUBLIN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE death-rate of Dublin is such as to create widespread alarm. During the quarter ending Sept. 30th last the deaths were equal to 7·3 per 1000 more than the mean rate of the previous 10 years. Within the municipal area or city they amounted to 34·0 per 1000. On the northern side the rate of 37·9 was reached. In the city the zymotic death-rate was equal to 9 3 per 1000, on the northern side to 11·2, and on the southern side to 7 6. Last year the death-rate from zymotic diseases amounted to 3·6 per 1000, which is about the average of the last 10 years. And this in 1898 may be reduced to 2·4 per 1000 if we deduct the 842 deaths of patients occurring in the hospitals who came from extra metropolitan districts. These figures show that during the quarter ending Sept. 30th last the deaths from zymotic disease were more than double the normal. Since that date matters have not improved. The general death-rate has been as high as 44 per 1000 and the zymotic death-rate 10 per 1000. The principal cause is undoubtedly the prevalence of an epidemic of measles, affecting, however, for the most part children under two years of age. The deaths during the last quarter numbered as follows: measles, 182; scarlet fever, eight; typhus fever, two; whooping-cough, 28; diphtheria, 11; simple or continued fever, two; typhoid fever, 38; diarrhœa and dysentery, 301. The admissions to the hospitals during the same quarter were: for measles, 612; scarlet fever, 134; typhus fever, 11; and typhoid fever, 488. During the same 13 weeks ending Sept. 30th last the number of cases of disease notified by medical practitioners amounted to 1948 cases of measles, 705 of typhoid fever, 78 of continued fever, 128 of erysipelas, 113 of scarlet fever, nine of typhus fever, 37 of diphtheria, two of puerperal fever, and two of German measles; total, 3022. All these figures clearly denote that measles and typhoid fever are the principal causes of the high death-rate.

In regard to measles it is somewhat difficult to find any special theory to explain its prevalence at this moment beyond the fact that the immunity acquired during previous epidemics may have had time to wear off. An epidemic of measles occurred from March to August in 1892 and it continued, but in a mitigated form, for the rest of the year. Altogether there were 432 deaths from measles in that year and only 81 deaths from this disease in 1893. In 1894 there were but 42 deaths due to measles and the lowest level was reached in 1895 when only three deaths occurred from this disease. The next year there was an almost imperceptible increase, namely, 10 deaths; but, in 1897, measles re-assumed epidemic form and caused 388 deaths. Then again, last year it almost disappeared and there were but three deaths from this cause. Now, once more, there is a severe epidemic, but as most of the victims are under two years of age it would seem as if they represented that section of the population which has not been rendered immune by the previous epidemics. One of the greatest difficulties in dealing with an epidemic of measles is the carelessness of the persons who have charge of the children and the absence of any law giving the sanitary authority any powers to close the schools. The sanitary authorities may address themselves to the Commissioners on Education. This was done during a previous epidemic but the Commissioners on Education were naturally not very well acquainted with sanitary matters. They thought that the managers of the schools should decide whether they should close their establishments or not. Naturally a manager of a school is not very anxious to send all his pupils away. Thus at the present moment three-quarters of the primary schools in Dublin are still open in spite of the very severe and fatal epidemic of measles that is prevailing throughout the city and the surrounding districts.

Typhoid fever is always more or less prevalent in Dublin. In 1898 there were 135 and in 1897 128 deaths from that disease in this town. In 1893 the disease assumed an epidemic form, there being 218 deaths due to it. In the present instance a certain number of cases have been traced to contaminated milk. The evidence collected is certainly very conclusive—so conclusive, indeed, that there is a danger of neglecting more important issues on the pretext that the milk is the cause of the mischief. It appears that a lock-keeper on the Royal Canal kept some cows. For some reason members of the Royal Irish Constabulary at the Phœnix Park Barracks, together with members of the metropolitan police force and the staffs of some schools and others, all conceived the idea that the milk supplied by this lock-keeper was better than the milk bought by contract for the various institutions to which these people were attached. But during the course of August last the lock-keeper contracted typhoid fever. He was nursed by his sister, and she soon also had the fever. These facts have been investigated by the Irish Local Government Board. In the face of a vast amount of conflicting evidence I will not at present enter into details as to when the supply of milk from this dairy was stopped, and what other measures were taken, and, above all, when they were taken. For the moment it must suffice to state the results. First, there were during the month of September 32 cases of typhoid fever at the depôt of the Royal Irish Constabulary. There are some 600 constables and 100 women and children at these barracks. 22 constables and 10 women and children had typhoid fever. There were two supplies of milk. One was from the contractor, but the sergeants and their families who could afford to pay extra got their milk from the lock-keeper. A few constables, thinking this latter a better milk, also purchased it, and the cases of typhoid fever occured only among those who drank the lock-keeper's milk. Six constables and two children died. At the Metropolitan Police Barracks there are 21 men, they had no milk from the contractor, all their milk came from the lock-keeper; six of the men suffered from typhoid fever and one died. In the same neighbourhood there is an educational establishment known as Morgan's school. There are here about 40 boy pupils and in all some 50 inhabitants. The lock-keeper supplied them all with milk. There were 13 cases of typhoid fever; three boys and two maidservants died. At the Mercers' School a similar disaster might have happened, but fortunately the girl pupils had not then returned from their holidays. There was only one case and the patient recovered. This also was due to the same milk-supply. Finally, there is an institution of nuns who act as nurses at the auxiliary workhouse of the North Dublin Union. Altogether there were 12 nuns and they all took the lock-keeper's milk, with the result that four of them had typhoid fever and one of the four died. On the other hand, the servants attached to the workhouse and all the children at the workhouse had their milk from another supply and there was not a case of typhoid fever among them. Apart from these public institutions, where it is more easy to trace the source of a milk-supply, it has been ascertained that two members of the Royal Army Medical Corps, a captain, and several private persons who have been in the habit of taking this milk have suffered from typhoid fever. In all, 66 cases have been traced to this one milk-supply; resulting

in 13 deaths. Doubtless there are other cases due to the the same cause, but this has not been proved as yet. Supposing, as indeed it has been suggested, that about 100 cases are due to the contamination of this one milk-supply, that will leave more than 1000 other cases not so accounted for. Therefore this epidemic due to a milk-supply though very conclusive, interesting, and instructive as far as it goes, must not lead inquirers off the main road. The contamination of the milk-supply is a subsidiary cause, an aggravating circumstance; it shows the absolute necessity of efficient and strict control of dairies, but even if the milk is always absolutely pure there will still be typhoid fever though there may not be quite so many cases. At Dublin, as elsewhere, the causes lie deeper—bad sanitation, great poverty, squalor, overcrowding, dirt. These imply such tremendous effort on the part of those who contemplate their abolition or reform that there is always a strong temptation to snatch at some small side issue which can be dealt with easily. Thus a careless milkman may readily be punished, but it is no such easy question to house in a wholesome manner the "submerged population," the "social wrecks" who throng the back courts and alleys of Dublin.

Dublin, Nov. 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Royal Southern Hospital.

THE annual dinner of the Royal Southern Hospital was held on Nov. 11th at the Adelphi Hotel. The chair was occupied by Mr. William Adamson, the President of the hospital. The company included members of the committee, the medical staff, and many prominent citizens. Surgeon-Major Black, who had served in China, the Crimea, and the Transvaal, suitably replied to the toast of "The Army." The toast of "The School of Tropical Diseases" was responded to by Major R. Ross, I.M.S., the lecturer in Tropical Medicine. Mr. J. Boyle, the United States Consul in Liverpool, replied for "The Guests" in a humorous speech. An interesting feature of the proceedings was the contribution by the company of £15 to the fund in behalf of the families of the soldiers and sailors killed or wounded in the Transvaal.—The new Lord Mayor (Mr. A. Cohen), accompanied by the Town Clerk and members of the City Council, was present in state at Divine service at St. Michael's Church on Nov. 19th. The collection was in aid of the Royal Southern Hospital and realised £98 0*s.* 9*d.*

The Proposed Sanatorium for Consumptive Patients in connexion with the Liverpool Hospital for Consumption.

A special meeting of the general committee of the Hospital for Consumption was held on Nov. 21st to consider the plans which the architect had prepared for the proposed new sanatorium. The secretary reported that a deputation had visited the Nordrach-on-Mendip Sanatorium for Consumptives in Somerset with their architect, who had instructions to prepare plans somewhat on the lines of the Mendip institution. These plans were submitted to the Hospital Committee and were unanimously adopted. A Building Committee was appointed to instruct the architect in regard to matters of detail. No time will be lost in proceeding with the project, the funds for which have been placed in the hands of the committee through the joint munificence of Lady Willox and Mr. W. P. Hartley. The final plans are to be submitted to the Building Committee in a few days. It is hoped to have the building completed during the ensuing year. The selected site is in the Delamere Forest between Frodsham and Helsby.

The Lack of Accommodation in Asylums for Pauper Lunatics.

Mr. Jenner-Fust, Local Government Board inspector, who was present at the last meeting of the Select Vestry, recommended that provision for imbeciles and epileptics should be made by county councils. He regretted that in West Derby the difficulty had been increased by the failure of the asylum board to provide sufficient accommodation for the more acute cases.

Infant Mortality in Cheshire Boroughs.

A discussion took place at the last meeting of the Cheshire County Council upon the question of the high rate of mortality among infants in the boroughs of Stalybridge, Dukinfield, and Hyde. Attention had been drawn to the matter by Mr. F. Vacher, the medical officer of the Cheshire County Council. The Public Health Committee of the county council had resolved to send a copy of the medical officer's report to the Local Government Board and to inform the department that in the opinion of the county council the borough authorities had not put in force the provisions of the Public Health Act. In view of the conference between the local authorities and the Cheshire County Council the resolution appealing to the Local Government Board was withdrawn. The excessive mortality is considered to be due to the neglect of their infants by married women who are engaged at work in the mills.

Influenza amongst Liverpool Horses.

Influenza, or pink-eye, is reported to be prevalent among the horses in Liverpool. It has been suggested that the supply of water to the horse-troughs should be discontinued and temporary stand-pipes substituted. In this way each carter would have to draw a supply for his horses and the danger of spreading the infection would be thereby minimised.

Nov. 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Health of Dublin.

THE death-rate of Dublin is again very high. According to the report of the superintendent medical officer of health for the week ending Nov. 18th the deaths amounted to 43·2 per 1000 persons living, the mean corresponding rate being 27·7. The zymotic death-rate was 13, comparing very strikingly with the mean rate for the corresponding week of the previous 10 years—viz., 1·6. 339 cases of measles were notified and 37 of typhoid fever. A large number of patients suffering from typhoid fever were admitted to the Mater Misericordiæ Hospital during the week.

Typhoid Fever in Merrion-square, Dublin.

Mr. Ball, of Sir Patrick Dun's Hospital, is convalescent from an attack of typhoid fever. Mr. Wheeler of the City of Dublin Hospital has recently been very gravely ill of the same disease, but is now progressing favourably.

Cork-street Fever Hospital, Dublin.

According to the last report of the Cork-street Fever Hospital, issued on Nov. 11th, the registrar stated that the admission of cases of enteric fever showed a falling off in number while the beds allotted to measles were fully occupied. He remarked that this disease was very difficult to deal with as regards bed accommodation on account of the rapidity with which it spread.

Queen's College, Belfast.

On Monday, Nov. 20th, Dr. J. A. Lindsay, the new Professor of Medicine, was introduced by the President of Queen's College. There was a large attendance of professors and students. Professor Lindsay, after paying a warm tribute of respect to his predecessor, delivered an interesting address on the Progress of Medical Science during the Present Century. He showed that medicine has grown during this period in scientific precision, in practical utility, in efficiency, and in repute. The mere fact that during the present reign alone the average duration of human life in the United Kingdom had increased by three and a half years showed the increased power to cope with disease. A glance was then taken at the present position of the healing art, its relation to the age, its predominant tendencies, and its prevailing doctrines. Professor Lindsay regretted that in the legislation arising from the report of the Royal Commission on Vaccination there was a thinly disguised concession to popular clamour, instead of trusting to the slow but more sure advance of wider knowledge and more enlightened views. He touched upon the microbian doctrine of diseases, the question of internal secretions, the application of surgical procedure to diseases of the nervous system, and the important aid which medicine received from sanitation. Finally Professor Lindsay advised the students to extend their studies beyond the mere limits of the medical curriculum, especially in the direction of good literature.

Medical Evidence at Inquests.

At a meeting of the Law and Finance Committee of the Cork Corporation a discussion took place with reference to what some members of the corporation considered the inadvisability of having medical men examined at inquests where the cause of death appeared to be sufficiently evident. The two city coroners—Mr. Blake and Mr. Murphy—were present. The Mayor, addressing them, said that the attention of the corporation had been drawn to the fact that on many occasions they were paying fees to medical men where there was no necessity to do so, and when the ordinary passer-by could give evidence quite as effective in enabling the jury to arrive at a decision as to the cause of death. His Worship in the course of his remarks referred to the taking of medical evidence at a recent inquest on the body of a man who had fallen from a window. Mr. Blake, in reply, said that coroners have important duties to perform and that many cases which might seem the simplest often required the strictest investigation and in a case like that of the man who fell from a window it might be possible that there was negligence on the part of some one who might be implicated. Then in the event of such a person being put on trial, if the coroners had not employed a medical man judges of assize and such other functionaries would be bringing them to order for their omission. Mr. Blake at the end of his very able speech said: "I can say that medical men very often give services in such a gratuitous way that they deserve the highest commendation." Mr. Blake is one of the most eminent solicitors in Cork and has a large experience as coroner. His generous reference to the medical profession was doubtless meant as a delicate hint that there is such a thing as ill-advised parsimonious economy. If a medical man were summoned to the poor man who fell from the window and failed to render all the assistance in his power members of the corporation would be amongst the foremost to condemn him loudly for his inhumanity. Yet when there is an opportunity of paying indirectly for such valuable services—why then it is a different question altogether. Mr. Murphy, who also is a highly-esteemed solicitor, said that in nine-tenths of the cases coroners cannot tell whether a medical man's evidence will be necessary until an inquiry shall have been held. The Cork Corporation would do well in being guided by their able officials. They can possibly find scope for the exercise of economy in many other directions.

Nov. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

False Alarms of Plague in Algeria.

MANY of the political journals have announced that cases of plague have been reported as occurring in Algerian ports, that the Government has kept this news quiet, but that nevertheless deaths from plague have been notified at Constantine. These rumours have just been put an end to by an official note stating that up to the present no case of true plague has been notified in Algerian territory. Between Sept. 15th and Oct. 10th there were some suspicious cases, but they were kept under strict surveillance and were rigidly isolated and they recovered very quickly. Since this period Dr. Chantemesse has made a thorough inspection of the incriminated ports and after a month's careful observation he has not been able to notify a single case even of a doubtful nature. There has never been any question of the occurrence of a case at any other Algerian port and certainly not in Algiers itself, and in addition the precautions with regard to the introduction of the scourge are so rigid that were any case to occur the focus of disease would be immediately suppressed.

A Protest against Sewage Farms in the Suburbs of Paris.

I have already given your readers an account of the new sewage farms situated to the north-west of Paris in the vicinity of Pierrelaye and Méry-sur-Oise intended to complete the amount of surface necessary for the complete earth filtration of the sewage of the capital. So will be realised the dream of "everything to the sewer," an idea formulated some 15 years ago and already realised at Gennevilliers and Achères.[1] The sewage farms at Pierrelaye and Méry-sur-Oise, however, do not appear to give unmixed satisfaction. All the local wells are infected and it is evident from the occurrence of an epidemic of intestinal troubles that the earth surface is not enough to secure thorough filtration. The sewage seems to escape through fissures in the soil into the subterranean sources of supply to the wells. The authorities of the neighbouring parishes were obliged during the hot weather to draw water from the Oise and to carry it round in tanks for gratuitous distribution among the population. On learning that the city of Paris intended still further to increase the quantity of sewage distributed on the land the inhabitants got up a protest and already 5000 names have been attached to it. The city of Paris, unable to deny the damage of which it is the author and recognising the necessity for doing something without delay, has placed Pasteur filters in all the schools and public establishments. This, however, is only a provisional remedy, and the inhabitants maintain that Paris, which has contaminated their wells, should supply them with pure drinking-water at its own cost.

[1] THE LANCET, July 15th, p. 186, and Sept. 9th, 1899, p. 747.

Lectures on Medical Deontology.

For the first time there has been founded at Paris a course of lectures on Medical Deontology. These lectures do not form part of the official course of the Faculty, but have been started privately by Dr. Legendre, physician to the hospitals, and Dr. Lepage, accoucheur to the hospitals. It is indisputable, as Dr. Legendre remarked in his first lecture, that the principles of medical deontology are never taught to the student. In fact, the whole course of training of the student, as regards his future career as a practitioner, has reference purely to the scientific side of his profession. His intercourse with patients, the hospital consultations, and his rapid visits to the wards in no way prepare him for the correct, nay, diplomatic, attitude which it becomes necessary for him to observe towards his private patients. From this latter point of view he has to complete his education later at his own expense. In addition, he has to learn the art of prescription-writing for private patients, which is a very different thing from writing prescriptions in a hospital. As to his relations with his professional brethren the student on leaving the hospital is completely ignorant of what they should be. It is not to be wondered at, therefore, that in the midst of the inevitable difficulties of starting in practice he should go on the plan of doing those things which seem to him to bring him most personal profit regardless of the rights of his neighbours or of the influence which such action will have upon the position of the medical profession as a whole. A course of lectures such as is proposed will therefore do nothing but good, especially if it offers a demonstration that deontology does not mean a code of laws formulated to defend the older practitioner against the assaults of the younger generation, but a code which will best enable the medical profession as a whole, on the analogy of the bundle of sticks, to resist the assaults of its enemies who profit by its divisions. The demands of mutual aid societies, which are constantly becoming more pressing; the scale of payment put forward by assurance societies, which gets lower and lower; the exorbitant demands of municipalities, who seem to look upon a medical man as an authority in hygiene, forensic medicine, and general expert witness; and one, moreover, not only obliged to give his services, but to give them gratuitously; and the cheese-paring habits and bad faith of certain classes of society who strive to obtain gratuitous hospital treatment for all—all these modern scourges of the profession render it obligatory that the medical man should be so trained as to best defend himself and the profession as a whole if he does not want to be hopelessly beaten by fighting an isolated battle. Once the necessity for such action has been demonstrated the young medical man will easily perceive the need for maintaining friendly relations with his colleagues as a whole. The course inaugurated by Dr. Legendre and Dr. Lepage has a special interest that in addition to showing the young medical man his own peculiar powers in face of the enemy, it will enable him to see how professional discipline may be spontaneously brought about without having recourse to the utopian idea of some special tribunal exclusively medical.

Nov. 21st.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed the primary part of the examination for the Licence in Dental Surgery of the College:—Mr. E. T. Pasley, Waterford; and Mr. H. Schlegel, Dublin.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Medical Duty and Lay Misdeeds.

IF only for its rarity the following case, which was tried before the tribunal of Viterbo this week and was watched with much interest by the profession, demands something more than a passing notice. Signor Filelfo Verdinelli, clerk to the commune of Bomarzo, had an ailing child and called in Dr. Gaetano Benvenuti to attend him. The little patient suddenly grew worse and the father expressed a wish to have another opinion. To this Dr. Benvenuti had no objection; but meanwhile, as the child's condition was desperate, he was proceeding to inject caffeine when the father, in an outburst of passion, tried to prevent its being done, and in answer to the practitioner's urgent appeal exclaimed, "You have murdered my boy! This remedy should have been practised eight days ago!" Dr. Benvenuti continued to justify his proceeding when Signor Verdinelli, drawing a revolver, discharged it point blank (*a bruciapelo*) at the doctor and wounded him gravely in the left iliac region—a lesion from which he suffered acutely for more than seven months. The witnesses summoned before the tribunal bore testimony to Dr. Benvenuti's professional character, which was high, and those of them who were experts vindicated his practice, which was sound; while, on the other hand, it was put in evidence that Signor Verdinelli had been for two or three days "off his head" with grief and that he went about the house crying, "If little Vezio dies, I'll kill all the family and then myself!" Dr. Mugnai, an expert alienist of the Roman school, affirmed that he knew Signor Verdinelli to have suffered from "epilessia larvata" (masked epilepsy) and that during the last few days of his child's illness he had been labouring under "inhibitory paresis." Against this it was urged, on Dr. Benvenuti's side, that Signor Verdinelli's epileptoid condition could not be sustained—that, in fact, his conduct was that not of a parent beside himself with grief but of an individual harbouring an old grudge against a professional man who, in spite of his honourable record, had never acquired Signor Verdinelli's goodwill. In spite of this contention, ably set forth by Dr. Benvenuti's counsel (the advocates Mangani and Ludovisi) the court came to the somewhat halting conclusion that Signor Verdinelli was labouring under "un vizio parziale di mente" (partial derangement of mind), at the same time condemning him to two years' "reclusione" (imprisonment). This verdict has evoked much comment, and if it cannot quite be said (as the motto of the *Edinburgh Review* expresses it) that "nocens absolvitur," it is certain that, in local opinion at any rate, "judex damnatur."

Sero-therapy in Tuberculosis.

Three "cures" for tuberculosis are at present competing for professional favour in Italy—two of them, that of Cervello of Palermo and that of Ruata of Perugia, consisting of medicated inhalations already described in these columns,[1] and the oldest of them, that of Maragliano of Genoa, proceeding by sero-therapy. This last has just received an emphatic "testimonial" from Dr. Rigazzi, an Italian consultant of much experience in chest diseases—experience which he mainly acquired in Egypt, where he had an extensive *clientèle*. The last case under his treatment was that of a patient suffering from advanced tuberculosis with fever, harassing cough, rusty expectoration, grave loss of flesh and weight, and extreme general prostration. At the end of 1896 Dr. Rigazzi employed the Maragliano serum and persevered with the injections till all the above symptoms were arrested—arrested, moreover, definitively. Three years have now elapsed since the patient left Dr. Rigazzi's hands, and when last seen he was found to be comparatively robust, having brought up his weight to 87 kilogrammes, and being at length able to resume his professional work. This case is by no means an isolated instance of the efficacy of the Maragliano method, particularly as practised in its "place of origin," the Genoese clinique, and I have deemed it right to draw attention to it as the claims of other and more recent therapeutics—particularly the medicated inhalations in use at Palermo and Perugia—have tended to throw its undoubted success somewhat into the background.

Nov. 20th.

[1] THE LANCET, May 13th (p. 1333), and 20th (p. 1398), and Sept. 30th, 1899 (p. 917).

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

An Imported Case of Plague at Trieste.

ON Oct. 28th the Levantine steamer *Polis Mitylene* arrived at Trieste from Constantinople, having left that city on Oct. 11th and having subsequently called only at the ports of Gallipoli, Smyrna, the Greek Isles, Piræus, Patras, and Corfu. On Oct. 31st one of the crew was brought into the Trieste Hospital and as some infectious disease was suspected he and his nurses were isolated in the pavilion set apart for that class of cases. He died on Nov. 4th, and the suspicion that his illness was the pneumonic form of plague was supported by the post-mortem examination and confirmed by subsequent bacteriological tests and inoculation experiments. At the hospital every precaution was taken against any spread of the disease. The local authorities delayed publication of the case and even the sanitary department of the Ministry of the Interior in Vienna was not aware until Nov. 12th that plague had been recognised in Trieste. Immediately on receipt of the information Professor Weichselbaum of Vienna was sent to Trieste and on Nov. 13th a telegram arrived from him stating that the case was certainly one of plague. On account of this occurrence all ships arriving at Trieste will be subjected to sanitary observation.

Medical Men and Unqualified Practitioners.

In the course of the last few weeks two Austrian medical graduates were brought before the Vienna Courts of Justice for lending themselves to quackery. The first case was that of a young Vienna medical man who advertises in the daily papers that by using special Indian drugs he can cure eye diseases without operation. He was, in fact, the cover of a native of India named Goolam Kader who said that he came from Calcutta and had studied medicine there. The treatment consisted in the application of certain herbs which seem to be used in India by the natives for diseases of the eye. On account of the insufficiency of the Austrian laws in this respect there was no means of punishing this medical man. The result was the same in the trial of the other medical man; this delinquent stood in a similar relation to an old woman who has been practising in Vienna for some years and who has been repeatedly prosecuted for quackery. As the Austrian Medical Chambers are not empowered to remove such offenders from the Medical Register, both practitioners are continuing their objectionable methods of practice with the assistance of advertisements in the daily papers.

Nov. 20th.

Obituary.

REGINALD SOUTHEY, M.D. OXON., F.R.C.P. LOND.,

LATE COMMISSIONER IN LUNACY AND FORMERLY PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

DR. REGINALD SOUTHEY, whose death occurred rather suddenly on Nov. 8th at his country residence, Belringham, Sutton Valence, Kent, had been in failing health for some time. As a member of the College Club he dined with some of his old friends only nine days before his death and no one then present could have suspected the end to be so near.

Reginald Southey was born in 1835, being the youngest son of Henry Herbert Southey, M.D., D.C.L., F.R.S., F.R.C.P., and nephew of Robert Southey, the poet. He received his early education at Westminster School and in 1852 proceeded to Christ Church, Oxford. From here he graduated as B.A. with a first class in the Honour School of Natural Science in the year 1857. He pursued his medical education at St. Bartholomew's Hospital, reading with the late Sir William Savory and Mr. Henry Power, and in the year 1860 he passed the examination for the Membership of the Royal College of Physicians of London. In this year, too, he was elected Radcliffe Travelling Fellow. In the following year (1861) he took his M.B. at Oxford and immediately, in accordance with the conditions attached to his Fellowship, went abroad to continue his medical studies, working for a year in the hospitals at Berlin, Prague, and Vienna. In 1862 he

travelled to South America, visiting Rio de Janeiro, Monte Video, and Buenos Ayres, and passing the winter of 1863 in Madeira. In 1864 he was elected physician to the City of London Hospital for Diseases of the Chest, Victoria-park, and also physician to the Royal General Dispensary in the City, posts which he held until the following year (1865) when he was elected an assistant physician to St. Bartholomew's Hospital. In 1866 he took his M.D. degree at Oxford and was in addition elected a Fellow of the Royal College of Physicians of London, being appointed Goulstonian Lecturer for 1867. For this set of lectures he chose as his subject the Nature and Affinities of Tubercle. In 1870, after unusually rapid promotion, he was elected as full physician to, and teacher of clinical medicine at, St. Bartholomew's Hospital. where he also delivered an annual course of lectures upon Public Health and Medical Jurisprudence in the Medical School. The latter lectureship he held for a period of 14 years. He had the honour of being placed upon the Council of the Royal College of Physicians of London in the years 1878 and 1879, and from 1877 until 1883 he was physician to the Hospital for Incurable Children at Cheyne-walk, continuing on the committee until the year 1888. He delivered the Lumleian Lectures in 1881 on Bright's Disease and in connexion with this subject we may remind our readers that he was the inventor of Southey's tubes for slow drainage of anasarcous limbs. Dr. Southey was a vigorous writer. Amongst his medical works may be mentioned the article on Personal Health in "Quain's Dictionary of Medicine." He contributed numerous and important papers to the St. Bartholomew's Hospital, Clinical, Pathological, and Royal Medical and Chirurgical Societies, and also translated the articles on the Structural Diseases of the Kidney and the General Symptoms of Renal Disorders as well as that on Diffuse Diseases of the Kidneys in Vol. XV. of Von Ziemssen's "Cyclopædia of the Practice of Medicine." He was frequently consulted in cases of questionable sanity and in reference to the evidence of lunacy in criminals and in 1883 he resigned his various offices at St. Bartholomew's Hospital on his appointment as Commissioner in Lunacy in succession to Dr. Nairne. He continued to discharge the onerous and yearly increasing duties of that office for 15 years, when failing health caused him to resign the Commissionership in 1898.

Dr. Southey was an admirable specimen of the scholarly Oxford physician. He was a good French and German linguist and well read in the literature of both countries, an excellent clinical teacher and a man of great ability. But he never sought fame or advertisement, going on his path through life unpretendingly and doing what he had to do with faith and earnestness.

ASYLUM REPORTS.

London County Asylum, Banstead, Surrey (Annual Report for 1898).—The average number resident was 2436 patients—viz., 1070 males and 1366 females—during the year. The admissions during the year amounted to 474—viz , 273 males and 201 females—and of the total number 75 were not first admissions. Dr. T. Claye Shaw, the medical superintendent, states that although fewer patients were received in 1898 than in any year since 1886 (with the exception of 1893 and 1894) the number of those who died—viz., 45 of those admitted within the year—was "greater than in any year since the opening of the asylum, a fact to be explained by the very feeble condition in which many of the patients were admitted." During the year 191 patients were discharged as "recovered," which is 7 8 per cent. of the average number resident. Drink was diagnosed as the cause of insanity in 85 cases. There were 199 deaths during the year, or 8·16 per cent. of the average number resident. Of the deaths 35 were due to general paralysis, 35 to phthisis or to other forms of tuberculosis, 23 to pneumonia and bronchitis, 21 to cardiac disease, and 43 to chronic cerebral wasting. Only four cases were attributed to senile decay. General paralysis and tuberculous disease accounted for 35 per cent. of the deaths. The possibility of isolating all cases of phthisis had been considered, but practical difficulties had so far made this impossible. The asylum subcommittee report an outbreak of swine-fever which occurred in the spring of 1899 and necessitated the slaughter of all the pigs, thus giving rise to a considerable loss. The water from the asylum well being of considerable hardness had been causing a deposit to accumulate in the hot-water boilers and pipes, thus minimising to a great extent their utility. A scheme had been prepared to enlarge the water-softening plant and apparatus already in use and this was rapidly approaching completion. Many sanitary improvements have been effected, amongst which may be mentioned the connecting of the drainage of the medical superintendent's and assistant medical officer's houses together with the mortuary with the general drainage system, the cesspools to these houses being dispensed with.

London County Asylum, Cane Hill, Surrey (Annual Report for 1898).—The population of this asylum consisted of 2213 patients, 946 being males and 1267 females. During the year there were 497 admissions—viz., 272 males and 225 females and of the total number 411 were first admissions and 86 were re-admissions. Mr. J. M. Moody, the medical superintendent, states in his report that in regard to the probability of recovery, 99 males and 108 females were considered hopeful. The incurable cases among the admissions comprised seven imbeciles, 15 senile patients, 27 epileptics, and 31 general paralytics. During the year 186 cases, 86 being males and 100 females, were discharged as recovered—a proportion of 8 4 per cent. of the average number resident. The number of deaths in the year were 159, or 7 18 per cent., as calculated on the same basis. The number of necropsies made was 126. The causes of death were as follows: one was due to suicide, 10 to senile decay, 13 to phthisis, 16 to pneumonia and bronchitis, 37 to gross organic brain disease, while general paralysis was responsible for the highest number due to any single cause—viz., 46. Eight men and two women effected their escape and six of these were brought back on the day on which they escaped. Four women who were admitted while pregnant were confined during their stay in the asylum. One pregnant woman died from cerebral tumour. The institution was visited by an epidemic of influenza which attacked 246 patients and 91 members of the asylum staff. The disease was in some cases complicated by pneumonia and several patients succumbed. All the single rooms for patients throughout the asylum have been fitted with "silent indicating locks." The asylum sub-committee report an outbreak of swine-fever in June, 1898, which necessitated the slaughter of a large number of pigs. The sanction of the Local Government Board having been obtained in connexion with certain sewerage schemes of the Croydon District Council the Asylums Committee have authorised an expenditure of £1050 for part of the asylum sewerage system—viz., the drainage of the farm buildings, attendants' cottages, &c.

COLSTON DAY IN BRISTOL.—Nov. 13th was observed in Bristol as Colston Day. In the evening the members of the three societies (the Dolphin, Anchor, and Grateful) had their respective dinners, when the total amount received for the various societies amounted to £3628, against £4355 in 1898.

THE MEDICAL DEFENCE UNION.—The usual monthly meeting of the council of the Union was held on Nov. 16th, at the registered offices, 4, Trafalgar-square. A large number of the members of council—21 in all—were present, Dr. W. S. A. Griffith, being in the chair. The treasurer reported the satisfactory state of the funds, the bank balance being £1061. The secretary stated that 53 applications for advice and legal assistance had been received from members since the last meeting of the council, 25 of which were dealt with at the current meeting. A writ for libel on the professional character of a member was directed to be served and all legal steps necessary were ordered to be taken by the solicitor to the Union in defence of the member's reputation. Several other cases were placed in the hands of the legal adviser. Communications were received from the General Medical Council relating to the proposed restoration to the Medical Register of certain names which had been erased therefrom. The secretary was directed to take certain action to oppose restoration in two cases. The number of candidates elected at the meeting was 15, making a total for the year to date of 438 new members. The members number altogether 4449 and the guarantee fund amounts to £6552 15s.

THE CONFERENCE ON MEDICAL POLITICS AT NEWCASTLE-ON-TYNE.

UNDER the joint auspices of the North of England Branch of the British Medical Association, the County of Durham Medical Union, the Newcastle and District Medical Ethical Society, the Gateshead Medical Association, the South Shields and Jarrow Branch of the County of Durham Medical Union, and the Sunderland Branch of the same union a Conference on Medical Politics was held on Wednesday, Nov. 22nd, in the Examination Hall of the University of Durham College of Medicine, Newcastle-on-Tyne.

The meeting was attended by the three Direct Representatives on the General Medical Council—Dr. Glover, Mr. George Brown, and Mr. Victor Horsley—who delivered short addresses and took part in the discussions. The Examination Hall was filled with medical men from the districts round Newcastle, over 160 being present, and the chair was taken by Dr. E. Jepson, President of the County of Durham Medical Union. Intense interest was manifested throughout the proceedings, which lasted from 6 P.M. to nearly 11 P.M.

The CHAIRMAN introduced the three Direct Representatives to the gathering and then called upon Mr. Victor Horsley to give his address.

Mr. VICTOR HORSLEY said: There are many questions of importance and interest which affect the medical profession very keenly at the present time, some of which will have to be dealt with by legislation shortly. I believe we are all agreed here at any rate as to the essential points for reform in the constitution and procedure of the General Medical Council, the protection of the interests of the profession collectively or individually, and reform of various conditions which govern the requirements of the profession. Although many of these subjects may be prosaic and not of such immediate apparent value for discussion at the present moment as some others they are nevertheless perfectly fundamental in character and until they are decided in our favour the practitioner will have to wait an indefinite time for the redress of the evils from which he is now suffering.

CONSTITUTION OF THE COUNCIL.

My first topic, the constitution of the General Medical Council, embraces a far wider field in reality than that which it appears to do. The General Medical Council is not the only body which is accorded legislative and judicial powers over the members of the medical profession, and it is not usually realised in what an extraordinary series of little oligarchies that power really resides. The medical corporations—i.e., the Colleges and Universities—are bodies which also control the fate of the general practitioner, and they do so not only through their own powers but also by means of their excessive representation on the General Medical Council. The medical corporations, therefore, have a double power, as a matter of fact, given to them by the Medical Act of 1858, although each corporate body or guild was originally never intended by the State to do more than regulate the conduct of the few individuals who composed that guild or corporation. But a further point comes in here—viz., that when we talk of the great medical corporations doing this, that, or the other, it is a mere figure of speech because the Councils of these bodies, having usurped the rights of the Members, now refuse the individuals who hold the Membership of the corporation or guild any share in the conduct of the business of the corporation; in other words, therefore, when we say that the College has taken such and such action in the name of the profession it conveys a wholly false idea of the situation, because it is not the College that moves in the matter at all—it is only a body of 20 or more estimable gentlemen who have arrogated to themselves the use of the name of the College or corporation. With the College of Physicians the case is slightly different, because the body which takes upon itself to reply to questions from the Government, &c., in the name of the corporation is somewhat larger, but there still remains the fact that it is only a small oligarchy within the College and not the College itself. So much, then, for the conduct of the matters within our corporations.

We now come to the fact that these corporations are excessively represented on the General Medical Council, since each has legally the power of sending a representative to the Council. That each corporate body as a whole should elect a representative was intended by the Medical Act of 1858 which constructed the General Medical Council, but a coach and horses has been driven completely through that Act by the little collections of men who compose the councils of the corporations. These gentlemen elect a representative who nominally represents the whole College or University, &c., but, of course, as a matter of reality, he does nothing of the kind. At the utmost he represents only the little coterie who elected him, and in the case of Mr. Brudenell Carter, who represents the Apothecaries' Society, we have the unedifying spectacle of a seat on the General Medical Council being occupied by a man who is sent there by a handful of City grocers who have not a particle of medical education about them and whose nominee takes upon himself to speak as though he were the representative of the large body of medical practitioners throughout the United Kingdom who are licentiates of the Apothecaries' Society. This system, of course, leads to the utmost indifference on the part of the so-called representatives of the corporations to the interests of those whom they nominally represent, and the recent case of the late Mr. Hunter, L.S.A., is a striking instance in point; for his so-called representative, Mr. Carter, allowed him to be prosecuted and ruined on the false plea of his being an American quack, while as a matter of fact he was a registered medical practitioner and a Licentiate of the Apothecaries' Society. Further, inasmuch as the gentlemen who hold these positions as so-called representatives of the medical corporations are in a greatly preponderating proportion among the members of the General Medical Council it follows that our unfortunate profession is doubly governed by a series of small oligarchies who regard themselves as entirely irresponsible to the great body of practitioners, their colleagues in the profession they have the honour to belong to.

It should be the business of meetings like this to see that this glaring instance of unconstitutional government is put an end to, and the quickest method of setting things right would be to obtain an amendment of the Medical Acts so that each university or corporation would elect its representative by the votes of all the fellows and members of the corporation in question. This is clearly what was intended by the Medical Acts, but, as I have pointed out, the power has been gradually usurped by the council of each corporation. This plan is one which appears to me to be the simplest for adoption by the British Medical Association for inclusion in the forthcoming Medical Amendment Bill, but it is not, of course, the ideal plan. An ideal constitution for the General Medical Council would be the returning of a member by the profession in various districts throughout the country so that each representative could fully present to the Council directly the wishes of a certain given portion of the profession. It is, I believe, however, useless to put forward such a sweeping reform at the present time, since the corporations have for so long had the examining powers in their hands that they have attained a fictitious importance in the eyes of the Government and I do not believe that any Government would consent to take away the influence of the corporations as laid down in the Medical Act of 1858, although it would, I am sure, cheerfully deprive the councils of those corporations of their ill-gotten powers and hand the same over to the practitioners who compose the membership of each corporation as it originally intended to do in 1858. In whichever of these two ways the constitution of the Council is amended there can be no doubt that the abolition of the close-borough system and the introduction of the ordinary principle of representation would lead to an immense change in its efficiency. For at the present time it is notorious that when an important subject, especially if it involves details of medical practice, is brought before the General Medical Council for the first time few seem to grasp it and it is as a rule promptly rejected, the favourite device, especially employed in the last session, being for one of the well-known reactionaries to move the previous question. It thus takes usually the period of two sessions before the Council will listen to a statement of the question at issue and it is usually a third before it is carried. I do not believe that with a thoroughly representative Council such delays could possibly occur.

Now, with regard to this great and fundamental question of amendment of the Medical Acts. As a matter of fact, the amendment of the Medical Acts is needed for very many

things, but especially has it lately become urgently necessary for the Council itself, for even the constitution of the Council and the subdivision of its working as established by the Act of 1858 are at the present moment endangered. As I pointed out in my last report to the profession, the Irish Branch of the Council is bankrupt and the funds of the Scottish Branch of the Council are steadily failing. It is clear, therefore, that for the welfare of the Council a complete revision must be at once made of its organisation and of the powers under which a Branch Council can carry on its work or even exist. A committee of the Council is sitting on the question and must report to the next session, but it is doubtful how far the rottenness of the present system or the necessity of fundamental change in the organisation of the Council and its work is fully realised. Further, of the other important questions which are pressing for immediate solution and which can only be answered by means of an amended Medical Act there are especially the establishment of a one-portal system of examination for entry to the profession, the further suppression of illicit medical practice, and the re-arrangement and improvement of the procedures of the Council which I shall refer to directly. Supposing, then, it is granted that such a Medical Act Amendment Bill must be formulated and pressed forward by the profession, it is worth looking to see what has been done already in this matter. The British Medical Association a few years ago advocated a one-clause Bill which dealt only with the question of illicit practice, but though this very small fraction of necessary reform has been long given up by the Parliamentary Bills Committee of the British Medical Association as utterly inadequate it has been nevertheless revised and pressed forward by Dr. Saundby, the late President of the Council of the Association, as being the only measure worth the attention of the Association. To emphasise this mistaken view the Council of the Association, with Dr. Saundby in the chair, actually struck out of the Bill recently proposed by the Parliamentary Bills Committee all the other reforms it contained. Dr. Saundby, of course, as I showed at the meeting at Portsmouth, was quite unaware that the Government had already, about two years ago, expressed itself very definitely to the effect that it would not look at a Bill which only dealt with one subject. Nevertheless, the Council of the British Medical Association was so misdirected as to put back the hands of the clock and delay the work of the Parliamentary Bills Committee. The debate which I opened at the annual meeting this year at Portsmouth also brought out this fact very prominently, especially through the speech of Dr. Crocker, that there are many members of the Council of the British Medical Association who are so enamoured with the way in which the medical corporations behave that, though they are supposed to represent on the Council of our Association the interests of the medical profession—i.e., the members of those corporations—they prefer to advocate the reactionary opinions of the small majority of those who constitute the Councils of the Colleges.

The result of this extraordinary action on the part of the Council of the British Medical Association with regard to the amendment of the Medical Acts has simply been to bring the Council of the Association into conflict with its Parliamentary Bills Committee and to waste time. To restore the matter to its proper and former position I moved at the annual general meeting at Portsmouth:

> That any Draft Bill for the amendment of the Medical Acts shall contain, *inter alia*, provision for further direct representation of the profession on the General Medical Council and for the establishment of a one-portal system of qualifying examination.

In other words, instructing the Council to return to the former position laid down by the Parliamentary Bills Committee. If factious opposition were not a matter for regret it is really comic to notice that according to the last published minutes of the Council of the Association that Council took this motion of mine, which was carried unanimously at the Portsmouth general meeting, and actually sent it to the Parliamentary Bills Committee as an instruction reference, thus positively assuming the position of ordering the Parliamentary Bills Committee to do what the latter had already done but what the Council had mutilated and rejected. Such proceedings reflect very little credit on those who are responsible for the conduct of the business of the Association and who are placed on the Council to watch the interests of the practitioner. I will now remind this meeting again of what I reported to them in the early part of the year respecting the views prevailing in the General Medical Council itself on this matter of the amendment of the Medical Acts—namely, that many members of the General Medical Council consider that this fundamental movement of reform ought to come from the outside, though, as I have already pointed, out it is really necessary for the interests of the General Medical Council itself to obtain an amendment Bill. We must, therefore, in the Association press forward the matter of this Bill, and let me here point out that a meeting of the profession like this ought to instruct by a special resolution the representative of the branch on the Council of the Association to do all he can to push forward the amendment of the Medical Acts, and further, it ought to approach Dr. Philipson, who is the representative of Durham University on the General Medical Council, and invite him similarly to use his best endeavours to advance this very important matter. If these questions were not simply talked about but supported by personal application to the members of the Council of the British Medical Association and of the General Medical Council they would be advanced much more quickly.

LEGAL BUSINESS.

I have taken as my second topic the legal procedure of the Council because that involves a great deal which is of direct interest to the profession. The Council is entrusted by the State with the preservation of the Medical Register. Now registration by itself is of no value to the individual who is registered unless it secures to him certain privileges, and on the other hand there is no use in a body like the General Medical Council having the maintenance of the correctness of the Register entrusted to it unless it is also given judicial powers of investigation and decision respecting the persons whose names it admits to the Register. There are two different sides, therefore, to this subject of registration—one which secures to the profession certain advantages, and another which provides for the benefit of the public at large that the registered members of the profession shall possess certain virtues. Both of these aspects of the question involve legal procedure. It is therefore of immediate interest to us to see what the legal procedure of the Council has been or is likely to be in regard to these matters.

The Medical Acts are very clear in their wording as regards the advantages and privileges which registration confers upon the practitioner who registers his name. The advantages which the State offers to a man who is of honourable character, who has passed through a certain duration of arduous and expensive education far exceeding what is demanded of any other profession or calling, are, first, that he alone should be entitled to practise medicine, surgery, and midwifery; secondly, that he alone should be able to legally recover the fees for such practice; and, thirdly, that he alone should be able to occupy any medical post under the Government or under any institution or society towards which the State admits any responsibility.

As regards the first of these privileges I hasten at once to state that although, as I have frequently explained before, the Medical Acts are clear enough in their wording on the subject nevertheless certain reactionary spirits in our profession, together with some lawyers, delight themselves in constantly asserting that the Acts do not mean what they say and, in fact, deny to us any real birthright at all. It is, indeed, singular that the legal profession, which has taken good care to protect its own professional work up to the hilt, should endeavour in every possible way to obstruct us from interpreting our Acts in the way in which they are printed, but we have to accept the position until we can get the much-desired Medical Acts Amendment Bill, which must restate the position in such a manner as to prevent, if that be humanly possible, legal quibbling upon the subject. As to what is said by members of our own profession against the privileges of the practitioner, the profession has its own remedy in its hands to deal with that form of betrayal of its interests. In the Bill of the Parliamentary Bills Committee of the Association the law is put upon the plain footing that, indeed, already exists in most of our colonies. Our difficulties with lawyers have been greatly enhanced by the fact that the Medical Acts are legally administered in the hazy atmosphere of a magistrate's court, but the magistrates are by no means only to blame for the failure of the law to preserve to us the protection of our work which the Medical Acts give us. I have collected and published recently in the *British Medical Journal*, by way of correcting certain anonymous statements made in that journal by a so-called legal correspondent, over

20 cases in which quacks were successfully prosecuted in magistrates' courts for infringing this the first of our privileges. The difficulty has also occurred in the High Court and in no small measure. For in a now notorious case the High Court of Appeal emitted the remarkable decision that because a scoundrel of a quack said he possessed a degree which itself has no existence—viz., the M.D.U.S.A.—that, therefore, he did possess it and the judge of the High Court said more than this, he said he really did not see why a person who had been struck off the Register for infamous conduct should not be allowed to practise. When a judge of the High Court says such things as these there is some excuse of course for the humbler legal minds of magistrates who, as in the recent Norwich case, positively decided that although a quack might not under the Acts call himself a "surgeon" he had a perfect right to call himself a "doctor," although, as many of you doubtless know, both titles are specifically named as being secured to our profession by the Medical Acts. The General Medical Council has during the past two or three years been testing the Acts by a certain number of selected cases, that is to say, it has been finding out how far the hostility of the legal profession will go in the way of opposing a sister profession in obtaining its legal rights, and if only the legal steps taken by the Council's lawyers were less cumbersome and less expensive one would not have so much fault to find. But the legal procedures of the Council on the general question of the use of medical titles have quite recently, in the case of the late Mr. Hunter, L.S.A., been, as I pointed out at the last session of the Council, most seriously malversated. The lawyers of the Council, without any justification whatever in the way of instruction from the Council, took upon themselves to prosecute the late Mr. Hunter, L.S.A., for calling himself a "physician" and by intimidating the local magistrates succeeded in obtaining a conviction. Mr. Hunter was ruined, and his death, which followed soon after, was the direct outcome of this legal action. Not content with this, the lawyers of the Council, with the illegal connivance of the then Penal Cases Committee, and again without any authority whatever, prepared to resist the appeal which the late Mr. Hunter had lodged, and which was carried on for him by the Apothecaries' Society. By the absurd edict of the President I was prevented for some months, as you may remember, from seeing any documents of the Council; I could not discover what was going on or, of course, I would have secured the staying of these abominable proceedings. Thus it was that the case came before the Appeal Court, and it was positively argued before the Appeal Court by the legal advisers of the Council that no one had any right to call himself a physician unless he belonged to some antiquated College of Physicians. This delirious view of the medical title of "physician" was invented by the law officers of the General Medical Council and was positively accepted by the High Court, the justices composing which were so devoid of knowledge concerning medical education or medical affairs that while one judge laid down the decision that a physician was a person who was trained in surgery the other judge was convinced that the medical Colleges granted university degrees and both were fully satisfied that no M.D. of any university had any right whatsoever to call himself a physician. It is impossible to think calmly of such a hotchpotch of nonsensical untruths such as these passing for a grave decision in the High Court of Appeal. Yet this is what we have been brought to by the present legal procedures of the Council against which I have so repeatedly protested.

We will now leave the question of legal procedure as it affects the question of quackery and medical titles and turn to the matter of legal procedure in regard to that class of professional misdoing which is known as infamous conduct. The General Medical Council has had imposed upon it by the Medical Acts the duty of keeping the Medical Register clean and in this matter the profession has always supported the decisions of the Council, which have erred, if at all, on the side of mercy. But it is a remarkable thing that the Council has never safeguarded its legal procedure in this particular by obtaining from the Legislature the necessary powers as other public bodies have. I will only take one example of very necessary reform in procedure which among others was referred by a direct resolution of mine to the late Penal Cases Committee by whom it was of course disregarded. I refer to the fact that in conducting its inquiries the General Medical Council has no power to administer the oath to the witnesses whom it hears. It is not surprising, therefore, to find that justice has been frustrated and the decisions of the Council vitiated by perjury. I am bringing forward the matter again this session, and since this will require an addition to the Medical Acts Amendment Bill it is a further reason for the pushing forward of that necessary reform.

ORGANISATION OF THE PROFESSION.

My last topic is the organisation of the profession by means of the British Medical Association. The existing medical organisation of this country may be roughly divided into branches of the British Medical Association and medical societies with various titles. Quite recently it has been proposed by Dr. Crawshaw to form a medical association which shall have for its sole object the furtherance of medico-political reforms. Personally I think that the proper organisation of the profession in this matter is the British Medical Association, because there is, first, the existing machinery to hand; secondly, the efforts of the Association in medical legislation have been very fairly successful; and thirdly, the Association is recognised now by the Government as being very representative of the voice of the profession. If only the memorandum of association were carried out in its existing words the Association would provide everything that the practitioner requires—namely, scientific medical information, legal protection in the practice of his profession, and the social political furtherance of the best and highest interests of the profession. Holding these views it is naturally a great pleasure to me to take part in a meeting composed like this of members of the Northumberland Branch of the British Medical Association and of the medical societies of the district. While thus advocating the British Medical Association to be the proper basis of organisation for our profession I am by no means blind to the fact that a great deal of preliminary work remains to be done within the Association itself. In the first place the Council of the Association undoubtedly needs an infusion of new blood. It has been thought wise in the past to provide for a large number of vice-presidents who shall be for the remainder of their lifetime members of the Council. This, I think, is a constitutional mistake, because it necessarily follows that there is an always increasing body of men on the Council who take part in the proceedings when they themselves are practically removed from active life in the profession and from opportunities of becoming acquainted with the ever-changing needs of the profession. Another point is that the representative members of the Branch Council are accorded the position as a dignified honour rather than an appointment for active work. This, I venture to think, is a mistake. A representative on the Council of the Association should be a man to whom the interests and difficulties of professional work should be very pressing; he should be paid for the loss of time which his attendance on his duties involves. With a Council so recruited there can be but little doubt that the Association would become a most powerful agency of good service both to the profession and to the public. One more preliminary consideration I must draw attention to. Chiefly through the extraordinary activity of Dr. Welsford a resolution of the Association was obtained empowering the Council to remove by applying to the High Court certain verbal disabilities which prevent the memorandum and articles of association being as useful to its members as they should be and especially in the direction of protecting the livelihood and of furthering the professional welfare of the members of the Association. I hope that this and other similar meetings will cause the members of the Council of the Association to carry out the instructions they received from the general meeting of the Association and help to put an end to the reactionary spirit which affects the judgment of many of its older members and which has led to its recent singular action in regard to the Medical Acts Amendment Bill.

In conclusion let me point out to you that although there are doubtless certain members of our profession who, like Sir William Gairdner, consider that resolutions in favour of medical reforms are only the production of a small, insignificant coterie of discontented men "agin the Government" who are always disposed to get up a row for the sake of a little notoriety, it should be our duty to convince such persons that their constant obstructiveness is due to a combination of a want of knowledge and of sympathy and that their true aspiration should be to carry out the words of the memorandum of the British Medical Association—viz.,

"the objects for which the Association is established are the promotion of medical and the allied sciences and the maintenance of the honour and the interests of the medical profession." Nothing will, I think, more successfully overcome the hostility of our elder brethren than this meeting, the outcome of the active development of the work so happily inaugurated in this district by Dr. Jepson.

Mr. GEORGE BROWN in his address said: It affords me great pleasure to have an opportunity of meeting such an important section of my constituents as is represented at this conference. Such gatherings tend to silence the slanderous imputation that the bulk of the profession are perfectly indifferent as to the work of the General Medical Council or the individual action of its several representatives on that body. I congratulate you, Mr. President, and the societies represented here to-day, on the novel step you have taken in convening this conference in order to obtain orally the opinions of your Direct Representatives on reform and other important questions now before the medical profession and to exchange views with them. Such a meeting as this cannot but strengthen our position in the Council Chamber. But I would remind you that your interests in the *personnel* of the General Medical Council does not begin and end with your Direct Representatives. Each member of that body, although he may sit at the Council only as the representative of a minor medical corporation, has, in addition to his responsibility to the corporation he represents, responsibilities of a far higher order to the profession as a whole, to say nothing of his responsibilities to the public. I would therefore suggest that medical men in every part of the kingdom should lose no opportunity of bringing their influence to bear, personally or by letter, on the representatives sent to the Council by local universities and corporations. It would be an immense advantage to your Direct Representatives if the representatives of the Durham, Victoria, and other extra-metropolitan universities and corporations were less frequently found voting in opposition to them.

THE WORK OF THE MEDICAL COUNCIL BEFORE 1886.

In the few minutes allotted to me for this address it will be impossible to do justice to the various topics I had intended to discuss. I observe that in the agenda the first place in the synopsis of my address is given to the "Work of the General Medical Council as regards Medical Reform from the Institution of the Direct Representatives to the Present Time." That of itself would afford sufficient matter to occupy the half-hour I am allowed. I must therefore ask your indulgence if I only give a hurried and imperfect glance at this portion of my address.

As you are all aware, the General Medical Council came into existence under the Medical Act of 1858. The members of that body did not seriously trouble themselves about questions of medical reform. They considered that their duties began and ended with medical education and registration and the preparation of a Pharmacopœia. Under the Act of 1858 they were empowered to require that all the bodies connected with the legal authorisation of practitioners in medicine throughout Great Britain should place their education on adequate and uniform grounds. How the members of that Council fulfilled their trust and discharged their duty to the profession and the public in this regard was thus summed up by Sir Henry Acland in his presidential address delivered at the opening of the forty-first session of the Council on Feb. 15th, 1887. He said, referring to adequate and uniform medical education: "Twenty-nine years have passed, and now only last year has this been effected. Over the melancholy history of this delay a veil had best be drawn." The veil which Sir Henry Acland drew over this unfortunate history should, however, be lifted for one moment. The individuals responsible for this have long ceased to be members of the Council, but it is to be feared that in many cases their mantles have fallen on other shoulders, and that the influences at work in the Council Chamber remain very much what they were in the 28 years which elapsed between the Medical Acts of 1858 and 1886. This, perhaps, was to be expected; indeed, Sir Henry Acland, in referring to the addition to the Council in 1886, said the constitution of the Council would remain the same under the new Act with the addition only of such fresh blood as the practitioners of the three divisions of the kingdom may in their discretion see fit to elect. It would not be fair to the Council of those days to say no efforts were made in the direction of medical reform. As Sir Henry Acland in the address above referred to pointed out, in the 16 years following 1870 much fruitless labour was expended in the endeavour to bring about reform which involved, to quote his actual words, "loss of time to the Council and to Parliament and some loss of character to our profession. It is," he continued, "a sad chapter in the history of Parliamentary government and of free institutions." This, be it remembered, is not the verdict of a dissatisfied reforming agitator, but the well-thought-out judgment of one of the most honoured of the past Presidents of the Council, who held that important office nearly twice as long as any other President. The result of this neglect of duty was that at the time of the introduction of the Medical Reform Bill of 1886 there was not a medical corporation in the kingdom which held a qualifying examination which could be regarded by an impartial critic as adequate.

"THE BATTLE OF THE SHOPS."

The failure to carry out the obvious intention of Parliament as laid down in the Medical Act of 1858 was generally ascribed to "the Battle of the Shops." This was the reason put forward by Sir Henry Acland and I will not waste your time or my own in looking for another. The "Battle of the Shops" has continued ever since the Act of 1886 was passed and is still being waged with disastrous results to the profession as a whole, as well as to individuals. So bitter has been the contest that it has been impossible for medical reform to make much headway. The hopes of those who were most active in bringing about the passage of the Medical Act of 1886 have not been realised and it has become only too evident that little can be done unless Parliamentary pressure is again brought to bear with more force upon our medical corporations. It was clearly intended and fully expected that the Act of 1886 would bring about the "One Portal System." Indeed, this was the primary object of the Act. Section III. Clause (*c*) of the Act provided that for the purpose of instituting a qualifying examination in medicine, surgery, and midwifery, all the medical corporations in the same division might combine, and, further, that the universities and corporations in each division of the kingdom might combine for the same purpose, so that for all practical purposes for gaining admission to the Medical Register there should be only one Examination Board in each division of the kingdom. As far as I am aware, no serious attempt has been made to effect combinations of the universities and corporations and the attempts to unite the corporations in at least two of the divisions of the kingdom have ended in lamentable failure. The result is the continued existence of competing corporations and of too low a standard of professional education and examination.

THE LONDON COLLEGES AND THE APOTHECARIES' SOCIETY.

It will be in the recollection of some of the older members of the profession present that soon after the Act of 1886 was passed the Apothecaries' Society of London approached the Royal Colleges of Physicians and Surgeons with a view to instituting a combined examination of the three corporations. The Colleges, however, absolutely declined to take any steps in this direction. The Apothecaries' Society then applied to the various English universities to combine, but with a similar result. The Society then applied to the General Medical Council to appoint examiners in surgery so as to empower the Society to grant a registrable qualification in medicine, surgery, and midwifery. Instead of granting the request the Council on Feb. 19th, 1887, passed a resolution by 20 votes to 4, expressing the opinion that it would be contrary to the interests of the public to have two competing examining boards sitting in London, and strongly recommending the two Colleges and the Society of Apothecaries to arrange to hold a qualifying examination conjointly. In forwarding the resolution to the two Colleges Sir Henry Acland, the President of the Council, said: "I am unwilling to add much. But it is my duty to say that the General Medical Council has come to the conclusion, after very careful deliberation, that I should thus address you. ..... It is the unquestionable duty of the Council to leave no means untried by which the examining corporations may be induced to combine for examination purposes. They have already combined in Scotland. In England and Ireland they have partially combined or are combining. Should you (that is, the two Colleges) be induced to coöperate with the Society

of Apothecaries of London, it is evident that one strong licensing body, to which no exception can be taken, would be constituted in London, that the system of inspection would be simplified, and long discussion and suspense would be happily terminated. I could, indeed, were I at liberty, write much in support of the wish of the Council, representing as it does every medical interest in the kingdom. I will, however, now only add that by desire of the Council I shall hold myself in readiness to confer with you on this matter at some convenient time, should that course appear to be desirable." The good offices of the President were declined and the strong recommendations of the Council treated by the two Colleges with contempt; indeed, it was held by some of those connected with the Colleges that the Council had gravely outstepped its duties by addressing the Colleges on the subject. It is not to be wondered at that, finding his efforts to carry out the intentions of the new Medical Act frustrated at the outset by those to whom he had a right to look for help, Sir Henry Acland, who at the time was not in good health, promptly retired from the Council. I have, Mr. President, dwelt on this subject at considerable length, but it is necessary to do so in order to show the spirit in which the provisions of the Medical Act of 1886 were approached by those who were responsible for carrying them out.

FRICTION BETWEEN THE COUNCIL AND THE LONDON COLLEGES.

Thirteen years have elapsed since the two London Colleges defied the Council in the matter of combining with the Society of Apothecaries. They were successful then. They have now quite recently set themselves in opposition to the Council in regard to another most important matter, showing that these corporations still continue to oppose progress. At the last session of the General Medical Council, a resolution was passed to the effect that on and after Jan. 1st, 1900—

> No medical student shall be registered until he has passed a preliminary examination as required by the General Medical Council, and has produced evidence that he has commenced his medical studies at a university or school of medicine or at a scientific institution recognised by one of the licensing bodies and approved by the Council.

The Colleges have replied to this much-to-be-desired educational reform by passing resolutions denying the authority of the Council to make such regulations, and declining to recognise the requirement that scientific institutions where medical study is commenced should be approved by the General Medical Council. Is it a matter for surprise that medical education and medical reforms lag behind?

THE COUNCIL AND PENAL CASES.

Although so little was accomplished in the way of medical reform in the first 10 years of direct representation (1887 to 1897), it is only fair to record that a great advance was made as regards the enforcement of the penal clauses of the Medical Acts, especially in checking the practice of so-called "covering" of unqualified practitioners. This, no doubt, was due in a great measure to the presence on the Council of the three Direct Representatives and the frequent reports of cases of unprofessional conduct sent to the Council by the Medical Defence Union and other similar organisations.

RECENT REFORMS.

Although since my election in December, 1896, to a seat on the Council as one of your representatives I cannot point to a long list of reforms accomplished, it is pleasing to be able to report that some progress has taken place. Regulations have been passed raising the standard of preliminary education for medical students. These come into operation in January next, and a further resolution has been passed requesting the Education Committee to report during the next session as to the earliest date at which it will be practicable to raise the standard to that of the senior and higher grade examinations at present recognised. The Council has also issued more stringent regulations with a view to suppress the employment of unqualified assistants in visiting and treating patients except under the immediate personal supervision of the employer. In taking this action the Council has responded to the appeals which have been made for many years past by medical men and the organs of professional opinion. Although, apparently, some cases of individual hardship may have been occasioned by the new regulations I feel sure that the profession as a whole will approve the action of the Council in endeavouring to suppress an evil which is fraught with danger to the public as well as being highly injurious to the best interests of the profession.

One of the most important steps taken by the Council since it was first constituted was taken at the last session. I refer to it with particular satisfaction, as it goes a long way to redeem one of my election pledges. In my address I pledged myself, if successful, "to endeavour to make it impossible for cheap clubs and medical aid associations which made a profit out of their medical officers and canvass from door to door for members to obtain the services of registered practitioners." I had given notice previously to the meeting of the Council in May last of my intention to propose the following motion:—

> That this Council regards it as unprofessional to hold the appointment of medical officer to any society established for the purpose of providing medical aid to its members whose agents systematically canvass for members from door to door.

A special committee, of which my colleague, Dr. Glover, was chairman, had been appointed previously to report on the question, but of course I did not know what their report would be. I was agreeably surprised to find during the session that the committee had reported in favour of an almost identical motion. When the question came on for discussion the Council unanimously adopted the following modified resolution:—

> That the Council strongly disapproves of medical practitioners associating themselves with medical aid associations which systematically practise canvassing and advertising for the purpose of procuring patients.

This is an entirely new departure, and if acted upon, as I trust it will be, it will effectually solve the most difficult problem which has engaged the attention of general practitioners in recent years.

THE DEMAND FOR INCREASED DIRECT REPRESENTATION.

On the question of increasing the number of Direct Representatives on the Council I regret to report that no progress has been made. On May 31st last I brought forward a proposition:—

> That the time has come when it is expedient to confer on the registered medical practitioners resident in England and Wales the power of returning an additional member to the General Medical Council, as provided for in the Medical Act of 1886.

The motion was lost, 21 voting against it and only 7 in its favour. The minority consisted of the five Direct Representatives and Dr. McVail and Mr. Tomes, Crown representatives. All the corporate representatives who were present, the President excepted, voted against the recognition of the just claims of the medical practitioners in England and Wales. The chief reason put forward by our opponents for refusing to sanction the proposed increase is that the majority of the profession are quite indifferent about the question, as is evidenced by their failure to fill in and return their voting papers when an election takes place. It is deeply to be regretted that medical men are so apathetic, as the position of your Direct Representatives on the Council is thereby rendered more difficult than it otherwise would be. This conference leads me to hope that greater interest will be taken by medical men generally in the work of the General Medical Council. In an address which I delivered to the members of the Incorporated Medical Practitioners' Association some 18 months ago I ventured to hope that the infusion of new blood into the *personnel* of the Council in recent years would result in a more liberal policy. The chilling reception given last session to my proposition to increase the number of Direct Representatives has completely dispelled this hope.

REFORMS NEEDED IN THE COUNCIL.

This brings me to the question of reforms needed in the constitution and functions of the Council. The constitution needs remodelling by reducing the corporate members and increasing the number of Direct Representatives. The Legislature evidently foresaw that the time would come when the corporate representatives should be reduced, and powers are given to the Council in the tenth section of the Act of 1886 to make representations to the Privy Council when any constituent body has so diminished in importance as not to be entitled to return a representative. The time is approaching when it will be necessary to exercise these powers. The University of Wales and the proposed Birmingham university will, no doubt, seek to be represented on the Council, and the best method of meeting their claims will be by reducing the representatives of the "diminished" corporations.

REFORMS IN THE METHODS OF THE COUNCIL.

The methods of the General Medical Council sadly need reforming. Too much of the work of the Council is done by

committees. The Executive Committee and the Penal Cases Committee are entrusted with powers and discharge functions which ought to be, and formerly were, performed by the Councils or Branch Councils. The results of this delegation of duties are disastrous. This was exemplified by the unfortunate prosecution of the late Mr. H. K. Hunter, a registered practitioner, for using a title descriptive of his professional calling. Through the failure of the Penal Cases Committee to make themselves fully acquainted with the facts the members of the Council were misled and authorised a prosecution which would never have been sanctioned by myself and other members of the Council had the actual facts been laid before us. Through this prosecution and conviction, it is to be feared, Mr. Hunter died prematurely and the diploma of the Apothecaries' Society has been publicly discredited. The decision of the magistrates in this case will not, it is to be hoped, be allowed to stand, for it appears to me to be absolutely opposed to the law.

THE ONE-PORTAL SYSTEM.

Among general medical reforms I would give the first place to the institution of the "One-Portal System" by means of a State examination. It is high time that effete corporations should give place to state examining boards associated with the universities. In the future medical men who wish to occupy a proper position in public estimation should hold a qualification from a university. It is not sufficient to hold a surgeon's or an apothecary's diploma. It is most damaging to the holder of the College of Surgeons or the "Hall" diploma for his patients to be told that he is not a proper "Doctor" as too frequently happens. The rising generation of medical men recognise this, and in consequence the demand for university degrees relatively increases, whilst the applicants for the diplomas of the corporations are diminishing. In 1885—the year before the passing of the Medical Reform Act, and when the Conjoint Board did not exist—the candidates for the licence and membership diplomas of the London Colleges aggregated 1398; in 1893, six years after the conjoint board was formed, the aggregate was 951, whilst in 1898 it had diminished to 822. A large decrease is also shown in the number of candidates for the licence of the Apothecaries' Society of London. In 1879 Dr. Glover, in his evidence before a committee of the House of Commons on Medical Reform, said: "I should say that the Irish Apothecaries' Society should be dispensed with. I think that the English Apothecaries' Society, too, although it has done very good work, is certainly no longer wanted." On the same subject, before the Royal Commission on the Medical Acts in 1881, the present President of the Medical Council, Sir William Turner, said: "As regards the two Societies of Apothecaries I am of opinion that their existence as licensing bodies is an anachronism and that they should in future cease to take part in conducting examinations for a licence to practise." There are many who to-day are prepared to say the same of the remaining corporations. If, however, we cannot end effete corporations the next best thing we can do is to mend them, and this should be accomplished by affiliating them with the universities as I have already shown is fully provided for in the Act of 1886. I have given formal notice of my intention to bring this question forward during this session, which commences on the 28th inst, and to take the opinion of the Council thereon.

CLUB AND CONTRACT WORK.

On this subject, which includes the proposed Conciliation Board, I must say but little, as Dr. Glover, who has given much attention to it, will probably discuss it very fully. I supported the suggestion when it was before the Council because such a board could not possibly do any harm and in certain cases might do good, but it appears to me that too much has been made of the difficulties arising from club and contract work. I venture to think that we, as general practitioners, can if we choose settle the matter to our own satisfaction without any outside help. In my own case I settled the question once for all soon after commencing practice by declining to accept club appointments, and I have never regretted taking this course. The usual conditions of club practice appear to me to be unsatisfactory both for doctors and patients. If we were to unite we might obtain more satisfactory terms than are now offered. It appears to me that the most satisfactory arrangements for club patients would be a graduated scale of fees to be paid for actual attendance and medicine supplied, and that none but those who cannot afford to pay ordinary fees should be permitted to take advantage of the club rates.

But nothing can be done to improve the position of general practitioners in regard to contract work or any other desirable reform unless we present a united front and I trust that one of the results of this conference will be to promote unanimity in our ranks, so that by mutual confidence and by helping each other we may speedily succeed in doing something to raise medicine to the position it should occupy as an honourable and noble profession.

Dr. GLOVER, after a few preliminary remarks on the pleasure which it gave him to address a meeting of his old north-country friends, proceeded to speak on Medical Contract Work and the Conciliation Board. He said:—

I am one of those who do not think that we shall be able at present to do away with contract medical work. Not that I like it. My ideal of medical attendance, as I have told the friendly societies' leaders, is private practice—the personal and continuous attention of a selected practitioner extending over years till he gets a knowledge of, and a human interest in, individuals and families. And it is my experience that a good, honest, industrious, sober working man makes one of the best patients and one whom it is a pleasure to attend. Medical attendance in huge societies is attendance more or less in a crowd and in a rush. But we must take facts as we find them and for the time being contract work is the fashion. The working classes are great at organisation and willing to sink their individuality in their organisations. There is nothing essentially wrong or illegal in medical contract work if it is based on fair and sound principles.

I shall try to give you in a few sentences my views on this great question. 1. I think that the present rates and terms of the system, as regards both the profession and the patients, are most unsatisfactory. 2. I feel that the discussion on this system, and on what changes it needs to make it fair and good for all, is only beginning. 3. That conciliation should be tried and exhausted before controversial methods are resorted to. 4. I must say a few words as to the way in which the General Medical Council is brought into the question and the way in which it can help. 5. I would emphasise the importance of local efforts and organisation, subject to some general principles to be agreed on by a good Conciliation Board representing all parties concerned: friendly societies, their medical officers, the outside practitioners of any place who have a right to be considered.

EXISTING TERMS OF MEDICAL CONTRACTS ARE VERY UNSATISFACTORY.

First, the existing terms and relations in medical appointments of clubs and friendly societies—I take the latter as large typical clubs—are very unsatisfactory. (*a*) One obvious and chief grievance is the dependent position of the medical officer. He is excluded from the committee and is overpowered with a huge organisation and its executive. (*b*) Then the pecuniary terms, ranging from 2*s.* 6*d.* to 4*s.* 4*d.* a year, are low and altogether inadequate. Think of the cost and care of a medical man's education now, extending up to his twenty-second or twenty-third year or more, and his equipment for practice, and then taking clubs on such terms. No self-respecting working-man can think such terms adequate. I know the leaders of the friendly societies do not think so and are willing and even anxious to discuss them with duly authorised members of the profession. Only one thing could make such terms tolerable any longer—the inability of the working-classes to pay more—their poverty. But this is not pretended. They are not poor, they are well off, proud, properly proud, of their independence and strong in their self-respect, and would be more so if they were not pampered and pauperised by bad forms of medical attendance in hospitals and clubs. They are able to pay more adequately. Let me prove this by facts. I shall not take extreme facts—perhaps stories—such as that of late years the sturdy miners of Durham in order to get rid of their superfluous cash in prosperous times have been known to take to a degenerate diet of chicken and champagne. I shall deal with admitted facts. The unemployed now are at a minimum—2 or 3 per cent. of the working-classes. The deposits in savings banks, largely those of the working-classes, amount to more than one-fourth of the national debt. A friend told me the other day that in his little town in the centre of England with 3000 inhabitants there were Post Office savings of £40,000; that in a neighbouring town with a population of 4500 there were savings to the amount of £60,000. To estimate what a working man can give for his

medicine let us consider what he can give for his beer. A medical man practising in a poorish part of London told me the other day that working men in his district spend in beer probably 8*s.* a week; let us say 5*s.* a week, and I think that a moderate estimate. Strange beyond all understanding the Chancellor of the Exchequer has lately been encouraging the working classes to spend more money on beer. Surely, at any rate, if a working man and his wife can spend *5s. a week* on beer they can afford more than 4*s.* a year per head on medicine. Another proof that the working classes are able to pay their medical men more adequately is that they save money on their contracts and invest it in property.

My second point is that the discussion of what is fair and just remuneration to the medical profession is just beginning. We have never had the machinery for such a discussion. And mind you, the questions involved are very "ticklish" and delicate ones, such as the individual liberty of the medical man, the right of contract of the clubs, modes of practice, and modes of payment for medical services. Some of these questions are such as neither we nor the General Medical Council nor any local association will be allowed to settle by force, for they are legal questions. But let us realise the good that may accrue from their being discussed by competent and authorised persons on both sides and let us welcome every suggestion for such a discussion. This brings me to the Conciliation Board.

THE QUESTION OF THE CONCILIATION BOARD.

I know there is some backwardness in the acceptance of this proposal and I am sure you will let me advocate it, which I do strongly. I have no personal or paternal interest in the suggestion, which we owe to Dr. Bruce, the Direct Representative for Scotland, than whom I make bold to say there is not a wiser or more respected member of the Council. There are objections. There always are to everything. Let us meet the objections as best we can, but give the thing a fair trial. They resolve themselves into *two*—the question of the wage limit and the difficulty of choosing the representatives on the board. It is true that the great friendly societies of England do not see their way to deal directly with the question of wage limit. Experienced men here who know the constitution of these societies will understand the difficulty. But the friendly societies do not absolutely defend their rich members who are shabby enough to take medical attendance on club terms. They say public opinion is the cure for that and public opinion will come out very strongly in a board such as is proposed. But we are dealing here with millions of people and I maintain that if you could raise the whole conception of medical service and the whole standard of remuneration you would be doing a great service to the medical profession and to the people who are attended under the contract. I speak with some authority when I say that though the wage-limit is not directly included in the purview of the Board it does not follow that it will not come in indirectly or that some concession will not be made to neutralise its exclusion. Such a Conciliation Board would be an immense power for good. The friendly societies are powerful bodies and are much favoured by the State and by the public. We should do ourselves no harm but great good by meeting them half-way. If we could effect an improvement in our relations with them other clubs would follow suit. The experiment should be tried heartily and carefully.

THE CONSTITUTION OF THE BOARD.

Another difficulty is, How is the board to be constituted? My answer is—Obviously by a body representative of the profession and not hindered by law from giving help in the nomination of suitable members. The British Medical Association is considering the question and is very naturally taking plenty of time to do so. I am not without hope that we may get help from one or other of the medical authorities. I put it to you, gentlemen, would it not be a misfortune if when we are all trying to organise and unify the profession this proposal for a Conciliation Board should fall through and we should give a glaring illustration of our want of organisation, of our power of agreeing, in the face of highly organised bodies willing and anxious to meet us on fair terms? Remember the proposal is made by a Direct Representative. The President of the Council has taken a great amount of personal interest in it and there was not one vote recorded on the Council against it. Whatever the action of the profession in this matter I feel convinced that the General Medical Council has acted with a real desire to uphold the interest and reputation of the profession. It has done so in two ways, first in its support and furtherance of a Conciliation Board, and secondly in a warning resolution—

> That the Council strongly disapproves of medical practitioners associating themselves with medical aid associations which systematically practise canvassing and advertising for the purpose of procuring patients.

I cannot do so now, but I hope at the approaching meeting of the General Medical Council to show that this resolution is having a good effect. Let me say a few words about the interest of the Council in these matters. It is only indirect, but it is real. They are appealed to by the profession about them. The Council was asked to excommunicate men on the ground of connexion with these medical aid corporations or to sanction their excommunication. This would be a very strong measure. I, personally, am not prepared to say that in certain circumstances, within certain limits, it may not be justifiable, but it is certainly impracticable and out of the question till conciliatory means of remedying evils have been exhausted.

The Council is interested in the question indirectly in its bearing on the efficiency of medical service. If the conditions and terms of it are such as to imply injustice to medical men and injustice to patients the profession would not like the Council to assume a position of entire indifference. At any rate as Direct Representatives and as supporters of direct representation we cannot take such a position. I hope, therefore, you will see that the General Medical Council, though it could not itself be or create a Board of Conciliation, is actually well within its duties in supporting the formation of such a Board for the improvement of medical attendance on the industrial classes and the remuneration of such attendance. The question is a big one, involving the opportunity of a better understanding with societies that represent nearly 3,000,000 of actual persons and a capital of £23,699,709, and it cannot be doubted that a good settlement with these societies would be likely to carry with it an improvement in all other forms of club practice. On its own merits the Conciliation Board deserves a thorough trial, and at this moment as a concrete illustration of the power of the profession to organise and concentrate itself it deserves support.

THE GENERAL MEDICAL COUNCIL.

The Council is one of the best-abused bodies in the kingdom. I am to speak of its virtues and its defects. Many would deny that it has any virtues. That is not my view. It is interesting in its composition. Most of our medical bodies are close; it is open. Most of them are local and one-sided in their composition; it is catholic. It contains a representative of every medical and surgical examining board in the country, also of every university. All divisions of the United Kingdom are represented in it. This is a great virtue and does much to vary and improve methods of education and examination. Then the General Medical Council contains Direct Representatives of registered practitioners in England and Wales, Scotland, and Ireland. You cannot claim such an interesting and important constitution for any other medical body in the country.

The absence of direct representation in the medical and surgical corporations is obviously unjustifiable and unreasonable. Nothing surprises me more than the refusal of the Council and Fellows of the great Royal College of Surgeons of England to meet the modest demand for a few direct representatives of its Members, unless it is the innocent reason given that they are only seeking one thing in their new charter. The gift to these Members of the right to wear gowns instead of the right of direct representation would be humorous if it were not also very like offering stones when bread is demanded. I am not an extreme man. I have no sympathy with my colleague Mr. Brown in speaking of these corporations as "antediluvian and effete." I do not think we advance direct representation by that kind of inaccuracy. But it is simply amazing that a great College with 17,000 Members trained on its own lines and largely representing the profession of the United Kingdom should deny them a representative at its Council board and should set such a line of demarcation between the Fellows and Members, as if the former were something entirely different from the latter. I venture to hope that the College—both the Fellows and the Council—will not lose the chance of conceding at this opportune moment the satisfaction which the Privy Council or the House of Commons will not be likely long to refuse and of so ending one of the

causes of division in the profession. Such a good example to other corporations would soon be followed.

But to return to the virtues of the General Medical Council. I think it is generally admitted that of late years, at any rate, it has been doing good work—work that is appreciated both by the public and by the profession. It has raised and is likely to raise higher the standard of preliminary education. It has lengthened the curriculum of medical education and improved its character. It is trying hard to improve the discipline of the profession and to bring the authorities into line with its own disciplinary action. At present there is serious confusion and in many of the authorities entire helplessness. Another urgent question to which the President is devoting much attention is the loose state of the law in reference to death certification. Before leaving the virtues of the General Medical Council I would say that there has been manifest of late years a much greater sympathy with the general practitioners of the country and a disposition to help them where possible. This is largely due to the action of the Direct Representatives, but I should be unjust if I did not say that many other members of the Council have taken a very prominent part in questions affecting the general body of practitioners.

Coming to the faults of the General Medical Council I shall notice two, the first of which is the overpowering predominance in it of the representatives of corporations and of universities. This is more objectionable as there is in these bodies no, or no adequate, representation of their members in their own domestic constitution. It follows that there is in the General Medical Council a very defective direct representation of the registered practitioners. The next fault of the Council is in respect of its powers of discipline, which are very cramped and imperfect. It can do nothing in the way of punishment but take a man off the Medical Register and when it has taken him off—possibly for a comparatively light offence—it cannot always put him on again. The consequence is that either it hesitates to remove men or inflicts a terrible injustice by not replacing them.

What is the chance of getting any amendment of the Medical Acts to remove these faults? I think some of these defects in the medical authorities or in the General Medical Council are so glaring that if we could get any approach to agreement in the Council and in the profession some sound legislation could be got. Without such agreement I believe it to be absolutely unattainable. Only those who have seen the process of getting anything like medical legislation can realise its difficulty and its slowness, and unless we can close some of the divisions of the profession it would be useless in times like these to expect the Government to undertake legislation.

The Organisation and Unification of the Profession.

I am more and more convinced that if we are to do our best as a profession and to take the high place that the course of things marks out for us we must perfect our organisation and cement the different opinions and the different sections of the profession into one. I shall never willingly be a party to breaking up the profession into bits and into separate interests. There is no fine line of distinction between general practitioners and consultants and there should be none. What needs most to be guarded against is an infinite number of opinions and schemes without much reference to what can be accomplished. All the conferences and associations in the world will not advance our interests unless we can agree upon some organisation that will bring difficult questions to a practical form that shall command the whole strength and assent of the profession. What are the necessary elements of such an effective organisation.

First, local societies like your own. Every locality has its own peculiar traditions of practice and must have full discretion to apply general principles to its own case. There seems to be a full recognition of the importance of this element in organisation, thanks very much to the medical press and, if I may be excused for saying so, to THE LANCET, which through its special articles by a Special Commissioner has done so much to supply the materials for judgment.

But we come now to the second element in our organisation—a central body of some kind, not to control, but to coördinate the local bodies, to formulate on general principles and to represent, not the divergence of the profession, but its unity, its agreement, its assent. Without such a harmonising, moderating, unifying central body, the indefinite multiplication of local organisations will not avail us. What body is sufficient for this function to represent the concentrated wisdom and assent of the local associations? What body shall it be? What body can it be? What but the British Medical Association? I am a very young member of that body and have no prejudices in its favour. There is a certain element of timorousness in it which disappoints me and which ill befits its size and wealth, and its right to be bold. But what other body can you set against it, for numbers, for age, for what it has done? It laboured for years, and obtained, with the help of THE LANCET, the concession of the principle of Direct Representation. It has worked hard for Poor-law medical officers, and for the recognition of the just claims of our brethren in the Services. I see no alternative. Do what you think best to improve its action and its constitution, but stick to this one central body. The multiplication of local bodies is good. The multiplication of central bodies spells weakness. One heart, one brain is the lesson of our anatomy and must be the moral of our medical politics. The very multiplication of local associations makes the necessity for a strong central body the greater, and without it we shall be weaker and more divided. And let me say one word more about this one central body. When you have got it—and I think you have got it—respect its decisions. Let them for the time being be your guide. If they seem to you doubtful meantime still respect them. You will gain more in the long run by this than you will lose, and unless the decisions of a central body are to be respected you may as well be without it. I myself speak feelingly. I am interested—not personally in any way—in the British Medical Association deciding in favour of a Conciliation Board. I think if it does not it will lose a great opportunity of doing the profession good and of showing its own usefulness and power. But if it acts so I shall submit and be sorry only for the British Medical Association. By way of illustrating the value of local action I should like to refer to what I have heard since I came into this hall concerning the inadequate way in which certain practitioners perform the operation of vaccination in this neighbourhood in order to please parents and so attract patients. I think this is a very serious matter and should come in the first instance before the local organisation for consideration. I myself think the circumstances worthy of consideration by the General Medical Council.

Finally, a Word for your Direct Representatives.

Gentlemen, I have done. Let me in conclusion say one word for your Direct Representatives. If they do not always take exactly the line you think they ought, give them credit for having the same objects as yourself while seeing reasons for exercising a little discretion as to the best way of attaining them. Treat them not as machines to record votes but as brother practitioners having the same interests, the same prejudices, if you please, as yourself. Try to put yourselves into their place, with imperfect laws to administer, with a public opinion jealous for the freedom of quacks, bone-setters, and midwives. I believe that we still have statesmen and judges who will perceive that it is in the interest of the public to maintain the high traditions of the profession, and if we act with moderation and with unity, avoiding the haggling vulgarity of common politics, we shall secure for the profession still better laws, including an extension of direct representation and for the public better medical practitioners and better medical attendance.

Dr. ALFRED COX (Gateshead) asked Mr. Horsley what prospect there was of the General Medical Council doing something in the way of reforming death certification.

Mr. HORSLEY replied that the matter was in the hands of the President of the Council, who was to approach the Government on the subject. The President was assisted by Sir Richard Thorne, and a report of the matter was hoped for in the next session.

Mr. MARK WARDLE referred to the opinion expressed by the General Medical Council on medical men taking service with medical aid associations and asked if there was any near hope of such men being effectually dealt with by the Council. The speaker then detailed a case in his district in which a medical man in the service of a medical aid society was preparing to undersell the local practitioners and to canvass for patients.

Dr. J. F. ARMSTRONG (South Shields) said that they should have the power of appeal to the General Medical Council to

stop medical men underselling old practitioners by taking colliery clubs at the old rate of 6*d*.

Dr. STEWART narrated an instance of a medical man accepting a colliery club at a sixpenny rate and behaving in a disgraceful and incompetent manner. Dr. Stewart related details of a case of malpraxis committed by this individual and declared that a man of that sort ought to be brought to book and punished.

Dr. E. H. GIBBON asked what action, if any, were the Direct Representatives going to take to prevent such an abuse of the Council's rights as occurred in Mr. Hunter's illegal prosecution apparently at the unauthorised instigation of the legal advisers.

Dr. GLOVER said Mr. Wardle justly complained of the action of men who, under the cover of medical aid associations, canvassed from door to door. He (Dr. Glover) had omitted to remind the meeting that the General Medical Council had last session passed a severe resolution on this subject that they would be prepared to take a severe view of persons who committed this offence or of any medical man connected with a medical aid association who became implicated in this system. He reminded Dr. Armstrong that the Council had not the power which the Incorporated Law Society had. The Council might be empowered to act if the arrangements were such that the crowd of patients was so great as to be inconsistent with anything like decent practice.

In reply to Dr. GIBBON Mr. HORSLEY said that in order to approach the matter of the Hunter case and prevent such an occurrence again he had moved at a previous session that the Penal Cases Committee should revise the legal procedures of the Council and report to the Council thereon. They reported that the procedures were so perfect that nothing was needed. He differed *in toto* from that view and moved his former resolution in a little different form. That was carried and the matter referred back to the Penal Cases Committee. He had become a member of that committee, and hoped they would report this session and offer such safeguards that a terrible occurrence like the Hunter case could not possibly happen again.

Replying to Dr. PENFOLD, Mr. HORSLEY said he had been asked to explain the exact position of affairs with regard to unqualified assistants, and especially: (1) could a medical man keep a student in his house to attend midwifery cases alone? (2) could a medical man keep an unqualified assistant living at a distance from him and managing a branch surgery? Speaking as a member of the General Medical Council all Mr. Horsley could answer was to refer the questioner to the edict of the Council in regard to the first portion of his query. With reference to the latter part Mr. Horsley's reply was in the negative.

Dr. TAYLOR asked if the General Medical Council was likely to take any proceedings against a medical man who persistently made one insertion in vaccination.

Mr. HORSLEY said he was unable to foresee what course the Council would take. His experience of the General Medical Council was varied, but he certainly could not say what it would do.

Dr. TAYLOR asked what was Mr. Horsley's own opinion.

Mr. HORSLEY said that was a fair question. As a private individual he considered that if a man certified that he had performed a vaccination and had done it in the insignificant manner described it was unprofessional conduct.

Mr. GEORGE BROWN said with regard to the case of a man holding a medical aid appointment the question had been asked, Is anything likely to be done, or will the Medical Council do anything, with a man who holds such an appointment? The resolution of the Council on the subject strongly disapproves, but holds out no threat in any way; it really goes no further than expressing a pious opinion of the Council, and therefore a man might fairly say the Council simply disapproved and no more. Mr. Brown's motion, which was not accepted by the Council, was that the Council should consider it unprofessional conduct to hold medical aid appointments and until the Council held this view those who held these appointments could defy the Council. With regard to underselling he did not see that the Council had any power to deal with it as long as there was no unprofessional practice. It was unprofessional for a man to vaccinate in one place only for the purpose of cutting out other medical men and such a man should be complained of to his College to be dealt with in a disciplinary manner. In regard to the Hunter case he took it such a case would never occur again; the prosecution was sanctioned through a mistake and it was not stated to the Council that Mr. Hunter was on the Register.

Dr. HEDLEY asked for a more definite reply to Mr. Wardle's question.

Dr. GLOVER said the General Medical Council was definite upon the offence of canvassing. Though Mr. Brown thought the resolution was not strong enough it was intended to be strong. They would be glad to know that the resolution had already had a valuable effect against canvassing.

Referring to Dr. Stewart's case of underselling combined with malpraxis Mr. BROWN said that the corporation that sent that practitioner out to get his practice at the expense of the public ought to be approached. The Council could consider whether that corporation should be entrusted with the licensing of practitioners.

Mr. HORSLEY said that in Mr. Wardle's case they came back to the resolution of the Council which was a kind of straw to show the profession which way the mind of the Council was trending. To really decide the issue Mr. Wardle or some aggrieved practitioner should bring a specific case before the Council and force the Council to do one thing or the other, because we must have decisive opinions and decisions. In regard to Dr. Stewart's case of underselling combined with malpraxis, the civil law could be appealed to on behalf of the injured person and the qualifying body granting the diploma could be approached, and if that body failed in its duty then a complaint against that body should be made to the Council. In regard to underselling the Council could not point out to an offender that he was sailing too near the wind; it could not censure a man, it could only let him off altogether or strike him off the Register, and the consequence was that some men were whitewashed who really had done wrong. The remedy was to agitate for a Medical Acts Amendment Bill.

Dr. CRAWSHAW referred to a case of a medical man who, in consequence of the resolution of the Council in regard to medical aid associations, had resigned his connexion with a club of that description. That club had now got a fresh medical officer who was one chosen out of 13 applicants for the post.

Mr. CLARK NEWTON brought forward the following motion:—

> That this meeting strongly urges the local organisations of the profession and the representatives on the General Medical Council to oppose strenuously the certification by registered practitioners, of unqualified persons as competent to undertake *any* department of medical practice. That this meeting further regards such certification as contrary to the principles of the Medical Acts and any measure to legalise the same as a repeal of those Acts.

He said that the word *any* was in italics to indicate that the Midwives Bill and the licensing of opticians were included. He considered that the Midwives Bill was one of the most retrograde medical movements that had taken place during the last 40 years. The Duke of Devonshire had received a deputation favourable to the registration of midwives and he was told that the idea had received the sanction of the Medical Council and the College of Physicians. The Bill would create an inferior order of practitioners. It must be opposed strenuously because it was incompatible with the dignity of the profession. The creation of the so-called educated midwife was one of the silliest mistakes that could possibly be made. The Bill provided no penalty for a midwife practising without being registered. Women were more easily tempted by money and other things than men and when once a woman had departed from the correct path she sank through depths unknown to men.

Dr. A. W. BLACKLOCK seconded the motion and said that there should be no half or quarter knowledge, and no half or quarter qualifications. When the dentists secured for themselves a register a large number of unqualified persons got on that register. Now the midwives and opticians sought to filch from the medical profession other portions of work. The female midwife had been a curse ever since she had been in existence.

Mr. HORSLEY said he would like to know exactly what the motion was they were going to vote for. He had spent many hours, weeks, and months in trying to stop unqualified practice and he thought he was qualified to speak to a motion of this kind. He understood from Mr. Newton that the word *any* included *inter alia* reference to the Midwives Bill, but for the life of him he did not know what Midwives Bill Mr. Newton was referring to, because there was not a single Bill before the public which answered to Mr. Newton's description. They

were there to discuss a serious question and if they did not have the facts correctly their discussion was not worth a snap of a finger. If they were to discuss a Midwives Bill he asked again, What Bill? There had been more than two Midwives Bills, but as far as they were concerned there were two Midwives Bills of some importance. One was the Bill before the House of Commons—Mr. Balfour's Bill—and which must be considered still before the House, and it must not be forgotten that that Bill had powerful backers in the Government. That Bill was a constant danger to the profession, and if Mr. Newton referred to that Bill then he (Mr. Horsley) was in favour of the resolution. That Bill with its recent amendments was a horribly bad Bill and one to be resisted, but it must be treated fairly. Mr. Newton said that that Bill contained no penalty for a person practising without being registered, but that was not treating the Bill fairly, because the promoters of the Bill had adopted the penal clauses out of the British Medical Association Bill, in order to make the Duke of Devonshire think that he was being instructed by the profession when he really was not. It was not fair to say now that they were seeking to protect title only, To be strictly fair the prospects of the Bill passing through the House had to be considered. Though the Bill now contained the safeguards from the British Medical Association Bill he did not trust the promoters, for when difficulties arose these safeguards would be thrown overboard. It was necessary to be quite fair, otherwise these people would at once go to the Duke of Devonshire, and say, "We are being maligned." If, however, that meeting was going to discuss the broad question of the advisability of registering midwives he (Mr. Horsley) could not vote for the resolution. They had elected him for a specific purpose. His election pledges had been called in question in the pages of the *British Medical Journal* by some gentleman who did not find it convenient to come to a public meeting and discuss the question. At the time of his election he had pointed out that there were calamities caused through ignorant midwives and he had talked to numberless Members of Parliament on this subject; they all knew of these calamities, but they knew nothing about the privileges of the profession. Members of Parliament would not learn, but they would vote, and they intended to vote, so that these calamities should be stopped and they quite saw that it could only be done by putting these women on a register. Supposing a complication occurs in a midwifery case, then if the midwife went on with the case she at once clashed with the Medical Act of 1886. On that ground he had always maintained that if there was to be any registration at all it should be narrowed down to the so-called normal case. This point had been accepted by the Duke of Devonshire only since last May, and in terms which could not be improved upon. The Duke suggested terms for dealing on this point which were far better than he had ever seen anywhere else and the advocates of Mr. Balfour's Bill had accepted them and this was another step taken by the promotors of this still obnoxious Bill to further it in the House of Commons. It was untrue to say that Mr. Balfour's Bill creates a new order of practitioners, it only puts people who are already practising midwifery on a list so that if they do what they ought not to do they shall be punished. As to their recognition by the State it was only recognition for the sake of penal disability. The House of Commons have never interfered with persons carrying on their work when it has constructed an Act to restrict a certain interest to a certain class. They must all start together, the improper people will die out and a proper class will gradually be constituted. The British Medical Association had dealt with the matter of the midwife and had introduced the first Midwives Bill.

Dr. COX: Shame.

Mr. HORSLEY said it was no good calling out "Shame"; facts had to be dealt with as they were now. It was to be remembered that a few years ago every branch in the Association received draft proposals for legislation on the subject and the branches wrote back and returned those proposals corrected and amended having approved of the principle. The British Medical Association at that moment was committed to the principle of putting those women on a list for the purpose of correcting them if they did wrong. If that branch wished to pass a resolution to rescind their previous one, that was another matter, only it was better to word it so that all knew what they were voting for. He (Mr. Horsley) declined to vote because the resolution did not put the matter fairly and squarely before them. It was the duty of the profession to see that these midwifery catastrophes were stopped. The extirpation of every midwife in the country was an impossible and an absurd suggestion, and the only other remedy was the Bill of the Parliamentary Bills Committee of the British Medical Association. Mr. Horsley then quoted from his election pledges and showed that his position had been known for years.

Dr. CROSBIE and Dr. PENFOLD having spoken, Dr. COX addressed the meeting. He said they objected to any Bill and they objected to every Bill. He pointed out that in the *British Medical Journal* of June 15th of this year Mr. Horsley said that he would prefer no legislation. Mr. Horsley had adopted a policy of despair and rather than have a bad Bill passed had advocated what he considered to be the best out of some bad Bills. He (Dr. Cox) contended that the Bill created a new order of practitioners. Dr. Cox referred to Mr. Horsley's speech at Manchester and did not think the British Medical Association Bill safeguarded the interests of the practitioner. He admitted that it was a losing cause and he had cried "Shame" on the British Medical Association bringing forward the first Midwives Bill because it was in direct opposition to the opinion of every general meeting of the British Medical Association. The members had been betrayed by the Council of the Association. The only straightforward position to take was to say to the General Medical Council, to Parliament, and the Privy Council, that they might go on with their Midwives Bill, but they the practitioners protested that it was not a good thing for the public or for the profession, and they would do their best to defeat it, and would wash their hands of it, and would have none of it.

Mr. GEORGE BROWN said that the public called for a Bill supposed to increase the safety of parturient women. His experience was that fatalities were due to bad nursing. A better class of nurses were wanted. It was said that the Bill would not create a new order of medical practitioners, but the trained midwifery nurses he had seen were a very good guide in the matter, for these nurses called themselves as good as doctors, and this Bill would only consolidate them in their position. They had certificates now, and directly they were put on a Register they would be made into practitioners. They must go to Members of Parliament and explain the evil of the Bill and how it would be a public injury to vote for this Bill.

The motion was carried with one dissentient.

Dr. COX proposed, and Dr. HUNTER seconded, the following motions, which were carried:—

That the hearty thanks of this meeting be given to our Direct Representatives for their presence to-night and for their work on behalf of the profession both in and out of the Council.

That this meeting is of opinion that the time has arrived when the number of Direct Representatives should be increased.

The proceedings terminated with a vote of thanks to the Chairman, proposed by Dr. MURPHY.

Medical News.

UNIVERSITY OF LONDON.—At the M.B. examination held in October the following candidates were successful:—

First Division.—Arthur Stanley Barnes, B.Sc., Mason College and Queen's and General Hospitals, Birmingham; James Beatty, Trinity College, Dublin; William Billington, Mason University College and Queen's Hospital, Birmingham; Walter Seymour Danks, St. Bartholomew's Hospital; Herbert Lightfoot Eason and Caleb Thomas Hilton, Guy's Hospital; Russell John Howard, London Hospital; Charles Grant Pugh, B.Sc., Middlesex Hospital; Sydney Richard Scott, St. Bartholomew's Hospital; Mabel Geraldine Stevenson, Royal Free Hospital and London School of Medicine; and Frederick George Thomson, University of Cambridge and Middlesex Hospital.

Second Division.—Susila Anita Bonnerjee, London School of Medicine for Women; Harold Selwyn Capper and Harold Clifford, University College; Edward Howard Collens, Mason University College; Harold Collinson, Yorkshire College; Edward Charles Davenport, London Hospital; Thomas Evans, University College; Herbert Devas Everington, St. Bartholomew's Hospital; William Ferris, St. Mary's Hospital; Ernest Faber Fookes, Owens College and Manchester Royal Infirmary; James Gaff, St. Thomas's Hospital; Thomas Hudson Gardner, King's College; Annie Chapman

Gowdey, London School of Medicine and Royal Free Hospital; Edmund Stokes Hall, Guy's Hospital; John Charles Harcourt, St. Thomas's Hospital; Harold Hartley, Owens College and Manchester Royal Infirmary; Philip Maynard Heath, University College; Walter Clapham Hirst, St. Bartholomew's Hospital; Thomas Hoban, St. Thomas's Hospital; George Henry James Hooper, Charing-cross Hospital; Arthur Edwin Horn, B.Sc., St. Mary's Hospital; Mary Muriel Griffin Iles, Royal Free Hospital; Charles Llewellyn Lander, B.Sc., London Hospital; Thomas Noy Leah, St. Mary's Hospital; Beatrice Frederica Lovibond, London School of Medicine and Royal Free Hospital; Louisa Martindale, Royal Free Hospital; George Norman Meachen, Guy's Hospital; Herbert Henry Mills, Westminster Hospital; Christine Mary Murrell, Royal Free Hospital; John Austin O'Dowd, Birmingham Medical School; Alfred Gelsthorpe Osborn, Guy's Hospital; Arthur Robert George Pocock, University College; John Fletcher Porter, London Hospital; Bernard Elwell Potter, Charing-cross Hospital; Herbert Midgley Reeve, Guy's Hospital; Bryan Ellis Reynolds, University College; James Herbert Rhodes, St. Bartholomew's Hospital; James Robertson, Guy's Hospital; Mary Ariel Stewart, London School of Medicine and Royal Free Hospital; Walter Grahame Stewart, Guy's Hospital; Robert Gordon Strange, St. Thomas's Hospital; Eric Wilson Danby Swift, University College; Isaac Taylor, Yorkshire College; Gilbert Bahn Thwaites, St. Thomas's Hospital; Jane Holland Turnbull, Royal Free Hospital; Philip Turner, B.Sc., Guy's Hospital; William Howard Unwin, Charing-Cross Hospital; Harold John Van Praagh, St. Mary's Hospital; Ethel Miller Vernon, London School of Medicine and Royal Free Hospital; James Garfit Wallis, London Hospital; William Bertram Watson, St. Mary's Hospital and Durham University; Harold Edward White, Mason University College; Charles Wynn Wirgman, University College.

SOCIETY OF APOTHECARIES OF LONDON.—In November the following candidates passed in the subjects indicated:—

Surgery.—F. G. Aldrich (Section I.), Charing-cross Hospital; R. Brookes (Section II.), Westminster Hospital; J. M. Edwards (Section I.), Charing-cross Hospital; D. Hamilton, Royal Free Hospital; F. Marriott, Edinburgh; G. G. Membery (Section I.), Toronto; T. C. Mitchell (Sections I. and II.), Leeds; and H. J. Pickering (Sections I. and II.) and E. D. Wortley (Sections I. and II.), St. Bartholomew's Hospital.

Medicine.—C. B. S. Amos (Section I.), Royal Free Hospital; G. H. Bedford (Section I.), Guy's Hospital; R. F. Ellery (Section II.), St. Bartholomew's Hospital; R. T. Forster (Section I.) and J. B. Hall (Section I.), Leeds; W. K. S. Hay-Coghlan, St. Mary's Hospital; G. G. Membery (Section I.), Toronto; and T. C. Mitchell (Sections I. and II.), Leeds.

Forensic Medicine.—C. B. S. Amos, Royal Free Hospital; G. H. Bedford, Guy's Hospital; T. Burdekin, University College Hospital; E. E. Evans, Royal Free Hospital; R. T. Forster, Leeds; M. P. Gabe, Middlesex Hospital; W. K. S. Hay-Coghlan, St. Mary's Hospital; G. G. Membery, Toronto; and T. C. Mitchell, Leeds.

Midwifery.—J. R. Clemens, St. Thomas's and London Hospitals; F. E. Featherstone, Guy's Hospital; R. T. Forster, Leeds; W. K. S. Hay-Coghlan, St. Mary's Hospital; H. Jessop, Birmingham; G. L. Parsons, Westminster Hospital; J. R. Pooler, Birmingham; and C. H. Williams, St. Bartholomew's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery:—Messrs. M. P. Gabe, D. Hamilton, F. Marriott, T. C. Mitchell, H. J. Pickering, and E. D. Wortley.

FOREIGN UNIVERSITY INTELLIGENCE.—*Kiel:* Dr. Quincke, Professor of Internal Medicine, has been elected Rector of the University.—*Lemberg:* Dr. Wladimir Sieradzki has been appointed Extraordinary Professor of Medical Jurisprudence.—*Munich:* Dr. Karl Kopp and Dr. Hans Schmaus have been granted the title and rank of Extraordinary Professors.—*Paris:* Dr. Terrier, Professor of Operations and Apparatus, has been allowed to exchange chairs with Dr. Berger, Professor of Clinical Surgery.—*Prague (Bohemian University):* Dr. Matthias Pesina has been appointed Extraordinary Professor of Children's Diseases.—*Strasburg:* Dr. Albrecht Bethe has been recognised as *privat-docent* of Physiology and Dr. Otto von Fürth as *privat-docent* of Physiological Chemistry.—*Tomsk:* Chairs of Medical Diagnosis and General Theoretical Surgery have now been definitely established.

BURNLEY DISTRICT SANATORIUM.—The sanatorium at Kibble Bank, Burnley, was opened on Nov. 11th by Alderman Caleb Thornber, chairman of the Burnley Joint Hospital Board. The site acquired by the board contains 22½ acres, and at one of the inquiries held by the Local Government Board in connexion with the raising of loans for carrying out the work an undertaking was given not to treat small-pox cases on any part of the site. The portion of the site appropriated for hospital purposes contains six and three-quarter acres. The buildings erected consist of the porter's lodge, the administrative block, the fever pavilion, the isolation pavilion, and the laundry, stable, and mortuary block. The fever pavilion has accommodation for 22 adult patients in two wards of ten beds each and two single bed wards. The isolation pavilion contains four wards of two beds each. The total cost of land, buildings, walls, drainage, road-making, furnishing, &c., will be about £20,000. The site affords ample space for the erection of more pavilions.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health held their annual meeting in Bath on Nov. 23rd at the invitation of their President, Dr. W. H. Symons.

VACCINATION GRANT.—Mr. Henry Harris, L.R.C.P., L.R.C.S. Edin., of Clevedon, Somerset, public vaccinator for the ninth district of the Bedminster Union, has been awarded the Government grant for successful vaccination.

PREVENTION OF CONSUMPTION.—A meeting was held at Newquay, Cornwall, on Nov. 15th in connexion with the National Association for the Prevention of Consumption and other Forms of Tuberculosis. Dr. Adams presided and an interesting address was given by Dr. Webber.

PRESENTATIONS TO MEDICAL MEN.—Mr. James Morris, F.F.P.S. Glasg., medical officer of health for the burgh of Dunfermline, who has just completed 50 years' medical work in the city and surrounding district, was entertained at a cake and wine banquet, held in the Council Chamber on Nov. 14th, and presented with a cheque for £150 and a piece of plate for his wife, receiving at the same time, an illuminated address from the corporation.—Mr. William Cowie, M.B., C.M. Aberd., on relinquishing the post of assistant medical officer at the Infirmary, Woolwich, was the recipient of a marble clock from the charge nurses, as a mark of respect and gratitude for assistance in their work.

THE INHUMAN RELIEVING OFFICER.—The instances of callousness in the discharge of their duties as relieving officers which are constantly occurring are somewhat calculated to create a doubt if boards of guardians are sufficiently strict in their inquiries as to fitness of such persons, when candidates for these appointments. A prevalent idea of these officials, in order to effect a slight economy is to treat, in some degree, harshly poor persons who apply for relief, disregarding altogether the consequences which may probably follow. The instance under review is that of a man dangerously ill who got no relief from the officer to whom the medical man applied. It is fair to say, however, that the house in which the sick man lay was a few yards outside the relieving officer's district. The case was considered at a recent meeting of the West Ham Board of Guardians and the result of this consideration was a public censure of the relieving officer by the chairman for such a culpable neglect of duty.

THE PRESERVATIVES AND COLOURING MATTERS IN FOOD.

EVIDENCE BEFORE THE DEPARTMENTAL COMMITTEE.

As we mentioned in THE LANCET of Nov. 18th the Committee appointed by the Local Government Board to inquire into the use of preservatives and colouring matters in food has begun the examination of witnesses. At the first few sittings the Committee devoted itself to the examination of representative trade witnesses. At the sitting on Friday, Nov. 17th, it examined two such witnesses—Mr. Charles E. L. Gregson and Mr. S. Gibson Sinclair, both of whom represented the Liverpool Provision Trade Association, and in addition Mr. Leonard K. Boseley, analyst to Messrs. Keiller, makers of marmalade, jam, jelly, and confectionery.

The representatives of the Liverpool Provision Trade Association dealt with the use of boric acid in packing cured bacon and ham sent from Canada and the United States to this country. They explained that while at one time salt was generally used for this purpose, nowadays only 25 per cent. of the export was packed in salt and the other 75 per cent. was packed in borax. Incidentally they mentioned that the favour for the latter article was extending to Ireland. Both gentlemen insisted on the value of borax and said that the prohibition of its use would inflict great inconvenience and hardship upon the trade and would prevent the public getting what it wanted—namely, mild cured meat. Borax, they said, kept the meat from getting slimy, and if sufficient salt were used to prevent its becoming slimy then the meat would be too salt for the public taste.

In their opinion the trade had no inducement to use more borax than was necessary as a preservative and the average quantity so used, they said, was about 1 per cent. When it was suggested to Mr. GREGSON by one of the members of the Committee that the pork might be sent to this country fresh and cured here, he said that this had been tried and abandoned, and he assumed that it had been abandoned because it was not found to suit the requirements of the trade and the public. Mr. SINCLAIR informed the Committee that the whole of the bacon exported from Canada to this country was packed in borax, and said that if the use of this preservative were prohibited by law it would destroy the trade. In answer to Professor THORPE he said that when the meat arrived in this country the borax was washed off, so that only the slightest traces of it were discernible.

Mr. BOSELEY said that in his practice as an analyst he had gathered considerable experience in the use of preservatives and colouring matters in dairy products. He found that the proportions of borax added to milk by the average dairyman varied from 1 part in 1000 up to 1 part in 10,000. He did not himself say that 1 part in 10,000 would have a preservative influence, but he had known cases in which dairymen had introduced this proportion under the impression that it would have this influence. The conclusion he had come to was that about 50 per cent. of the dairymen in London used preservatives of some sort—probably 25 per cent. using boric acid and 25 per cent. using formalin. Butter, he should say, was, on the average, more heavily preserved than milk. He believed he should be justified in saying that from 50 to 60 per cent. of the samples of butter sold in London were preserved. French butter he found to be systematically preserved with borax and boric acid. With regard to preserves his experience went to show that certain makers invariably used preservatives in their jam—probably about 50 per cent. of the makers in England. The usual preservative was salicylic acid, which was practically the only preservative to stop fermentation. It was used in the proportion of about half an ounce to a hundredweight of jam, or 1 part in 3500. He was not aware that jam makers added any preservative to the fruit before it was preserved, though he had known cases in which fresh raspberries exposed for sale were sprayed with a preservative.

This evidence Mr. Boseley gave in answer to the chairman of the Committee, Sir Herbert Maxwell, M.P.

In reply to Professor THORPE Mr. BOSELEY said he had been for two and a half years in the employment of Messrs. Keiller, while prior to that time he was engaged as second chemist to the Aylesbury Dairy Company, and it was in this latter employment and in a public laboratory that he had gained his experience with regard to dairy products. He was well aware that some of the dairy companies in London objected to the introduction of preservatives. While in the employment of the Aylesbury Dairy Company it was his business to see that no preservatives of any kind were introduced into any of the products supplied to the company. He would say that boric acid was becoming more generally used than other forms of preservatives except in the case of jams and articles of that description. For the latter boric acid was not nearly so good an anti-fermentive as salicylic acid. He had found several samples of milk with formalin, the proportions ranging from 1 part in 10,000 up to 1 part in 2000.

By Dr. TUNNICLIFFE: He had analysed samples of rancid butter, but had not found preservatives in them. With the exception of apricots all the jams of the Messrs. Keiller were made from fresh fruit sent from the country during the fruit season and the apricots were made from pulps.

By the CHAIRMAN: Up to within the last two years jams were made by mere rule of thumb. There was no scientific knowledge of any description, and the idea of Messrs. Keiller in starting a laboratory was, if possible, to find out what percentage of sugar was necessary to keep a jam without either fermenting on the one hand or crystallising on the other. But of course there were other problems to be solved.

By Dr. BULSTRODE: At one time the Aylesbury Dairy Company used preservatives for potted cream, but this was stopped about four years ago. He believed the position of the company to be that they were perfectly prepared to run their business at all periods of the year without recourse to preservatives, and he might say that their supplies were brought from places so far distant from London as Wiltshire and Gloucestershire. In his opinion large companies with a big *clientèle* and with the means of using any surplus quantity in the churns could carry on the trade in cream without preservatives, though he was afraid that the smaller retailers might not be able to do so. He could not say of his own knowledge that any deleterious action arose from such preservatives as were now in general use.

Mr. BOSELEY was next examined by the CHAIRMAN with reference to colouring matters. In the dairy trade the colouring matter which was used as a rule was, he said, annatto, and the quantity used was quite insufficient to affect the flavour. Witness then gave to the Committee some information as to the colouring matters introduced into pickles. Jams, he said, were coloured some with magenta and some with vermilion—the former in the proportion of 1 part in about 100,000, and the latter of 1 part in about 80,000. Of the colourings of confectionery he had prepared a list with the scientific equivalents of most of them and he would hand it to the Committee.

By Dr. BULSTRODE: Metallic colouring matters had not been used by Messrs. Keiller for many years past. What they used were aniline matters, and they were prepared so as to be as free as they possibly could be from arsenic and lead. He might say that the people who worked in them suffered in no way in health.

By the CHAIRMAN: In the case of jams the colouring matter was only used to improve the appearance of the article. The manufacturer must make his jam in the fruit season, and it was found difficult to make it with such scientific accuracy that it would keep for the necessary eight or nine or perhaps 12 months. If it were possible for the workmen to work to the scientific proportion with exactness then preservatives might be done without, but there lay the difficulty, and at the present moment the maker who used preservatives had a great advantage over the one who did not use them.

By Dr. BULSTRODE: The salicylic acid was taken in the form of a powder and put into the pan with the sugar and fruit. The proportion was 0·05 gramme to the hundredweight of jam. It was the habit of jam makers to sterilise fruit. They boiled it in water and then put it into stone jars hermetically sealed. One might think the fruit would keep in this way, but it fermented and the jars burst. But if they introduced some salicylic acid they had no trouble with fermentation. It seemed, therefore, that they were forced to use salicylic acid if they wished to preserve the fruit.

The Committee then adjourned.

MONDAY, NOV. 20TH.

At its meeting to-day the Committee examined three witnesses—namely, Mr. John Walter Copeman, representative of the London Chamber of Commerce, Dr. J. Howard-Jones, Medical Officer of Health of the County Borough of Newport, Monmouthshire, and Dr. R. B. Wild, honorary physician to the Manchester and Salford Hospital for Skin Diseases, and assistant lecturer on Materia Medica and Therapeutics at Owens College, Manchester.

Mr. COPEMAN gave evidence chiefly with regard to the use of preservatives and colouring matters in fruit and vegetables. He said that sulphur was largely used in bleaching dried fruits—such, for instance as raisins, apricots, and plums; that carmine was used in cherries and copper in greengages—at any rate, in France; and that anchovy sauce was coloured. In the case of cherries, although they might be of the very best quality if they were light in colour in the bottle they could not be sold. They were returned to the wholesale houses and in consequence the packers were bound to use cochineal to improve the colour. The public, he said, insisted on all these things being pleasing to the eye. All green preserved vegetables—peas, beans, spinach, and the like—required to have their colour fixed by sulphate of copper to make them saleable. Non-metallic colouring had been tried over and over again, but it had not been found to suit. Peas and beans so coloured had been sent to West-end clubs and returned, members refusing to eat them. In one experiment made by his firm—Messrs. Petty, Wood and Co.—when they opened the tin an offensive smell escaped, a smell like that of water in which cabbage had been boiled. Witness said that in his opinion sulphate of copper had a slight preservative as well as colouring effect. The usual proportion used by manufacturers varied from 2 to 2·7 and 2·8 grains of sulphate of copper per pound of peas. In some parts of Switzerland and Italy there was a statutory limit of 1 part in 10,000 of metallic copper, while in Pennsylvania and New York merchants were only required to affix a label saying that artificial colouring was used. The Hygienic Board in Paris had settled this question at the instigation of the Government and for some years in France there had been no prohibition. Witness went on to say with regard to this country that there was no recorded case of poisoning by sulphate of copper in preserved vegetables. The trade had challenged the medical profession to produce a case where a person had been poisoned. As for his own experience he had not even heard of a case of illness from eating vegetables so preserved. On behalf of the London Chamber of Commerce he advocated a statutory maximum and he did so because of the present undefined state of the law. In some districts grocers were convicted for selling peas which contained sulphate of copper and in others they were acquitted, and in these circumstances it was considered by the trade desirable to have a statutory limit. Further, he might say, that the trade would have no objection to have a label declaring that the goods were artificially coloured. He did not think it would be practicable to label the proportions. From what he knew of the process of treatment it might well be that the proportions in a consignment varied considerably. The sulphate of copper was put into a large boiler and might not be equally distributed over the peas. He did not fear any harm resulting, because if peas were found to contain, say, four or five grains to the pound no one would be able to eat them, and they would be unsaleable. In conclusion, Mr. Copeman assured the Committee that if the use of sulphate of copper were prohibited the result would be to ruin the trade in preserved vegetables.

Dr. HOWARD-JONES recounted to the Committee the details of certain prosecutions instituted by the authorities of the Borough of Newport. These authorities, he said, had determined that the practice of introducing drugs into staple articles of food, such as milk and butter, was a source of danger to the health of the community, especially in the case of children, and they had notified to milk vendors and other dealers that no boric acid or other analogous preservative would be allowed in milk. Fresh butter, he went on to say, was brought from Australia and Denmark without resort to preservatives and such being the case he saw no reason why the introduction of boric acid should be allowed and he most certainly should not allow its introduction without an intimation to the consumer that it had been introduced.

In answer to Dr. TUNNICLIFFE witness said a case had occurred in Newport where a medical man was treating a lady patient for dyspepsia and where he found the remedies prescribed had no effect and he suspected the food as a possible cause. The medical man had several of the articles of food analysed and it was found that two or three of them, particularly the butter and milk, contained considerable quantities of boric acid. These were stopped and the symptoms abated and the medical man claimed this as a case where there was injurious effect produced by the use of boric acid. In a case where 1·3 per cent. of boric acid was found, the magistrates decided that the article was injurious to health and convicted. His general position was that the use of preservatives was unnecessary, and he added that when they were used there were often carelessness and neglect of precautions which would otherwise be regarded. He believed that if milk were beginning to decompose, the addition of boric acid might stop the decomposition and enable the milk to be sold, while with regard to butter he was informed by the analyst to the County Council of Monmouth that he had a case of rancid butter with 1·64 per cent. of boric acid and borax.

By Dr. BULSTRODE: Since the notification to the dealers he had gone round to some of the chemists in the town and he learned that there had been a great reduction in the quantity of boric acid sold and that other preservatives were being used.

Dr. R. B. WILD gave evidence entirely with reference to the toxic effects of boric acid. He explained that his attention was called to the subject some three years ago by the case of a patient (published in THE LANCET of Jan. 7th, 1899, p. 23) and since then he had watched the effect of administering quantities of boric acid in various doses to himself and to other persons. He found that he could take small doses, say, 10 grammes at a time, without producing any effects whatever. He had taken the doses immediately after meals and he had taken them upon an empty stomach, usually in water but sometimes in milk or tea; it was almost a tasteless substance and there was no difficulty

in taking it. He had taken larger doses, from 15 to 20 grammes, and he found that a single dose of this size did not affect him at all injuriously in any way. But after taking repeated doses of this size daily, say for a week or more, he did notice a little disturbance in the stomach, a little loss of appetite a feeling about the skin, and a general sense of not being so well. These symptoms practically disappeared in a day or two, after ceasing to take the drug. On several occasions he had taken still larger doses. He took 120 grammes within three or four hours and he had a very definite effect produced—nausea, discomfort, and diarrhœa. He felt unwell for a day or two afterwards; it was a feeling of loss of tone, due he could not say whether to the diarrhœa or the direct effect of the acid. Witness, having described the effects on the urine, said that he had given the acid to other persons, but never in such large doses as to himself. Some were healthy persons and some were patients suffering from disease for which boric acid was given internally. He found that the majority of these patients could take it perfectly well without any bad effects occurring, and in many cases with very considerable benefit. He had two cases where injurious effects were especially marked. One of these—the case reported in THE LANCET of Jan. 7th, 1899—Dr. Wild described in detail to the Committee. His judgment on the case was that in all probability it was one of boric acid poisoning. The patient took 30 grammes a day and the effect was cumulative to an extent, because his system was not equal to getting rid of the quantity in the 24 hours. Having disposed of these experiences Dr. Wild went on to speak of the presence of boric acid in milk and its probable effects. He gave the opinion that such a quantity of the acid as was required to preserve milk from apparent change, say, from 24 to 48 hours, was not likely to harm any healthy person, but it might harm people upon milk diet—for instance, babies brought up by hand—and it might harm patients suffering from disease of the kidneys. Roughly speaking, an adult living upon milk diet would take about two quarts a day and there would be about 10 grains of boric acid in each of these quarts. Dr. Wild said he considered it most important that steps should be taken to acquaint the public with the presence of a preservative of this kind in their milk. For instance, when a medical man was treating a child suffering from a skin eruption he found it difficult to make sure that the child would be fed upon milk which contained no boric acid. No doubt there were large firms which supply certified milk, but this milk did not reach the class of persons who brought their children to hospitals. He would not like to see anything done which would reduce the supply of milk in large towns or increase its price, having regard to its importance in dietary, and therefore he was not disposed to prohibit the use of preservatives, so long as the presence of the preservative was declared. His view was that milk containing a preservative should be sold as preserved milk; he would not go further than that.

By Dr. BULSTRODE: He considered that the nature of the preservative used should be disclosed. The smallest dose from which he had seen bad effects was 10 grains, and he had seen six or seven such cases. In a case of typhoid fever he did not think a small quantity of boric acid would be injurious, but in a case of scarlet fever he would rather not give it.

TUESDAY, NOV. 21ST.

The Committee at its meeting to-day examined four witnesses—namely, Mr. Thomas Clement of Messrs. Andrew Clement and Sons, cheese and produce merchants, Glasgow; Mr. William Davidson of Messrs. John Laird and Co., wholesale provision merchants, Glasgow; Dr. Voelcker, consulting chemist to the Royal Agricultural Society; and Professor McFadyean of the Royal Veterinary College.

The two gentlemen from Glasgow came as representing the Scottish Wholesale Provision Trade Association. Mr. CLEMENT explained that the view of this association was that the use of preservatives in certain proportions was absolutely necessary in carrying on the trade in butter. His firm, he said, were agents of the Canadian Government and from time to time gave advice and information as to the conduct of the butter trade, and he frankly told the Committee that the firm had strongly advised the Canadian Government to issue a recommendation to the butter-factors of the Dominion to use boric acid as the preservative for their butter. Mr. Clement gave the opinion that 1 per cent. of preservative, which he understood to mean about one half per cent. of boric acid, was ample for keeping butter.—Questioned by Professor THORPE as to the proportion of boric acid present in the preservative Mr. Clement said he should be very much surprised to learn that it was eight-tenths of the whole. The evidence given by Mr. DAVIDSON had reference more particularly to preservatives in meat. Like other witnesses he told how the public had come to prefer mild ham and bacon, and he insisted that the trade could only meet this taste by having recourse to preservatives. He put forward the view that men and women who worked in a hot, dry atmosphere, such as that of ironworks, could not with impunity eat the heavily salted meats which used to be sold 20 years ago. He admitted that occasionally the borax reached the interior of a ham, but that, he said, was due to carelessness on the part of the curer and could easily be detected.—Dr. BULSTRODE cross-examined Mr. Davidson with regard to his statement about the effect of heavily salted meat upon workers in a hot, dry atmosphere.—Mr. DAVIDSON said that he had the statement of the men themselves that they could not eat salt ham and bacon and work in such an atmosphere. It was, he added, detrimental to the stomach and it led them to take strong drink.

Dr. VOELCKER, examined by the chairman, Sir HERBERT MAXWELL, M.P., said that in his capacity of consulting chemist to the Royal Agricultural Society he had been taking some analyses of food products in respect to preservatives. Some of the samples came to him from farmers and some came in connexion with the administration of the Sale of Food and Drugs Acts. In the samples of milk he found that the preservative generally used was borax and boric acid. He had had very little experience in the determination of the actual quantities of preservative existing in the samples. Analysis of samples must be uncertain, because the preservative might have been properly stirred into the milk or it might not have been so mixed and might have fallen to the bottom of the vessel. The same remark applied to cream. It was a common thing merely to sprinkle the preservative on the surface of the cream, and of course if the sample for analysis were taken from the top it would be found to have a very large proportion of preservative. In earlier times he had come across salicylic acid, but not recently, and he had not yet met any samples with formalin. He had an analysis of condensed milk which contained 0·51 per cent. of boric acid. If the milk were diluted in accordance with the instructions this would mean 11½ grains to the pint. There was, of course, no excuse for the presence of this large quantity of boric acid. As to the presence of boric acid in milk, he found that in the majority of cases the milk had either been adulterated by the addition of water or was a mixture of separated milk and whole milk. He had found boric preservative in a considerable number of samples of butter—some home butter and some imported. In the case of Australian butters, some were with and some were without a preservative. He had examined a considerable number of samples of cider, and he found that in certain samples of low alcoholic strength salicylic acid had been used. All these were American ciders, which with their low alcoholic strength would not have kept without the preservative. The samples had been brought to him by English makers who complained that without using a preservative they could not compete with the American makers. He should say that there would be ground for a prosecution against the vendors of the ciders. He had examined samples of jam made in factories and he had one result which showed three and a half grains of salicylic acid per pound of jam. He regarded the presence of salicylic acid in jam as an objection. If the jam were properly made and the fruit sound there was, in his opinion, no occasion for its use, and he regarded its presence as a means used to hide imperfection in the fruit or bad manufacture.

By Professor THORPE: He had seen the preservative thrown into milk in most careless fashion. During the present year samples of Australian butter with preservative and samples without it had been sent to him and it was only after they had been five or six weeks with him that he could distinguish any difference between the two classes. His opinion was that butter properly made and in proper conditions required no preservative, but he did not attach so much importance to the case of butter as he did to the case of milk. With regard to the colouring of milk he thought there was no excuse for it whatever. The circumstances of butter were somewhat different and he saw less objection to its being coloured in order that it might have a uniform appearance at all seasons of the year. In the case of milk it was coloured in order to make poor milk look like rich milk, and therefore he thought the colouring of milk should be absolutely prohibited. Butter and margarine, in his opinion, stood upon different grounds. Margarine had a colour of its own and if it was coloured it was done to make it look like butter. When a dairyman coloured butter it was not to make it look like anything else but simply to meet the whim of the public.

By Dr. BULSTRODE: He should like to see the use of all preservatives in milk stopped, but at the same time he was bound to recognise that in some cases there might be excuse for its use and therefore he proposed that when it was used it should be accompanied by a declaration that it had been used. He should apply the same rule to cream.

Professor MCFADYEAN said he desired to give evidence mainly from the physiological point of view. He objected entirely in principle to the addition of any sort of preservative to milk. He thought no preservative was necessary. The addition of preservatives was, in his opinion, undesirable and in most cases the preservative which it was desired to add was physiologically indefensible. He knew that the statement had been made that some preservatives might be added in quantities sufficient for the purpose in view, to arrest the propagation of bacteria in milk, and not be harmful to the consumer, but it was a statement which, in his opinion, ought to be accepted with great caution. For himself he believed that even the most harmless of these substances, such as boric acid, when used in quantities that would be sufficient to stop bacterial action in milk, might be distinctly injurious to a consumer, and especially if the consumer were a child. He wished, further, to bring out this point, that with rare exceptions milk as it came from the cow had not got the essential agent of fermentation. It contained no germs at all and the two principal factors which were concerned in fermentation were, first and most essential, that germs should gain access to it, and, secondly, favourable temperature. To sanction the addition of such things as boric acid to milk would predispose the neglect of the proper precautions which ought to be taken to keep milk in the state in which it left the cow. It was a matter of common knowledge that the proneness of milk to go wrong or sour at a given temperature depended largely upon the amount of dirt in it or the amount of dirt which had been allowed to adhere to the vessels through which it had passed, and if the person who looked after the milk knew he was at liberty to throw into it boric acid, he would be more careless with regard to the elimination of impurities. He had the same objection to the use of preservatives in butter. He thought that the only preservative which was physiologically defensible in the case of butter was salt. He did not consider that it would meet the case to have the presence of preservatives declared to purchasers.

WEDNESDAY, NOV. 22ND.

The Committee met again to-day with Sir HERBERT MAXWELL, M.P., in the chair, and examined Dr. Edward Walford, medical officer of health of Cardiff, Mr. Richard A. Cripps, practising analyst, Hayward's Heath, and Mr. S. A. Vasey of THE LANCET Laboratory.

Dr. WALFORD, examined by the CHAIRMAN, said that the public analyst of Cardiff was under an agreement to analyse 600 samples in the course of the year and his reports were made to him. His view was that it was undesirable that substances like boric acid and formalin should be added to food, because he believed that injury to health might accrue. His information on the subject had reference almost exclusively to milk and butter. In 1898 the public analyst reported that 8·5 per cent. of the samples of milk contained boric acid, and he had subsequently reported that of 145 samples 13·8 per cent. contained it. The lowest percentage of boric acid found was 0·05 per cent., and the highest 0·09 per cent., the former percentage representing about seven grains to the quart of milk and the latter about 14 grains. He considered that such quantities might be harmful to young children fed on milk, and he thought for the protection of the public that food preserved in this way by chemicals should be announced by label or otherwise as containing this substance. At the same time, he did not think that the use of these preservatives was necessary, and he was not of opinion that even with this precaution they should be allowed. In the course of 1898, 92 samples of butter were examined, and 44·5 per cent. were found to contain boric acid preservative. In

one case only were proceedings taken and that was a case where the amount was 1 per cent. The charge was dismissed because the defendant produced a warranty that the article was sound, and he might add that it was found impossible to get at the wholesale dealer who gave the warranty. It was probable that these preservatives might be used to conceal incipient decay or putrefaction or deterioration. They certainly delayed decomposition, and therefore the milk might be stale at any rate and incipient decomposition might have commenced and the preservative might prevent any noticeable decomposition occurring.

By Professor THORPE: His opinion was that boric acid interfered with the normal process of digestion. The presumption was that in small quantities—such, for instance, as 0·05 per cent. in the case of milk—it would probably occasion some derangement and certainly some delay. He did not think there was any evidence to show that it would accelerate digestion to any extent.

By Dr. TUNNICLIFFE: He was aware that the experiments made by Chittenden and by Rideal and Foulerton were experiments *in vitro*, and no doubt the results would not be quite the same as the results in the human organism. He did not know that he held a strong view with regard to the advisability of prohibiting preservatives, but he certainly thought that the public should be protected from taking these chemical substances without knowing of their presence in the food. The public asked for fresh milk and got milk with a chemical in it, and he did not think that was right.

By Dr. BULSTRODE: If a physician were to prescribe 10 grains of boric acid three times a day it might very well happen in the present state of things that the patient was already taking 30 grains a day in his food, making 60 grains in all. He knew no reason why milk and butter should not be preserved by refrigeration instead of by this chemical, and therefore, he said, chemical preservatives were unnecessary. He had made inquiries as to infantile diarrhœa and he had found that it was most prevalent in the hot months of the year, and it might be that this was due to the more or less indiscriminate use of boric acid in the milk during these months.

By the CHAIRMAN: He had no reason to believe that if preservatives were prohibited, there would be any difficulty in getting an adequate milk-supply for such a town as Cardiff. These chemical preservatives were of recent date, and formerly he did not think there was any difficulty about the milk-supply. If the alternative were between an ample milk-supply and a strictly pure milk-supply he should certainly attach most importance to the latter.

Mr. CRIPPS presented to the Committee the results of a series of experiments which were made by him to test the effect of boric acid upon the digestive ferments. The experiments, he explained, were entirely chemical experiments and the results went to show that boric acid in quantities up to 1 per cent. had no detrimental influence upon digestion. At the same time, Mr. Cripps said that the real issue had reference to the physiological action of the acid upon the human system and upon that he did not pretend to give an opinion.

Mr. VASEY, in answer to questions addressed to him by the CHAIRMAN, said he was a Fellow of the Institute of Chemistry, a Fellow of the Chemical Society, and a Member of the Society of Public Analysts, and he appeared before the Committee as representing THE LANCET. His examination of foods for THE LANCET had extended over some 10 years. The articles of food and beverages found on analysis to contain a preservative, were: meat peptone for invalids, beef-jelly for invalids, milk, lager beer, lime juice, grape juice, apple juice (cider), lemon squash, sausages, and peas; the preservatives found being benzoic acid, formaldehyde, salicylic acid, and borax. In some instances where THE LANCET commented unfavourably upon substances containing preservatives, communications were afterwards received from the vendors of the articles, intimating that they could possibly see their way to leaving them out and samples subsequently analysed were found to be free from the preservatives previously present. This was more particularly so in the cases of lager beer and cider, the latter made in this country and the former in Germany. The preservative which had been used was salicylic acid. He was not aware that the vendors had made any communication to the effect that to discontinue the use of preservatives would interfere with their trade. Evidently they regarded the report as damaging to their interest and determined to remove the cause of objection. The borax usually referred to milk, but he had also found it in meat peptones, beef jellies, and other things intended for the use of invalids. He had very little evidence to offer as to the proportions because his analysis was restricted to discovering the presence of preservatives. He did not know whether the makers or vendors of the meat peptones and jellies had discontinued the use of preservatives. He should like to point out that in the course of inquiries undertaken by THE LANCET he was appointed to inquire into the supply of milk of the great metropolitan hospitals and the results were published in THE LANCET of Jan. 1st, 1898. Apart from the fact that seven only of the samples proved to be of good rich quality, three of them gave distinct evidence of boric acid and one of formaldehyde. His opinion was that the hospital authorities should obtain a guarantee from the milk-dealer that the milk supplied was free from preservatives. Whatever opinion might be held in regard to the effect of preservatives on persons in health, it would surely be conceded that the addition of a chemical antiseptic to milk for the sick was most undesirable and should be absolutely prohibited. He was further of opinion that peptones, beef jellies, &c., intended for invalids ought also to be free from chemical preservatives which often defeated the object of the medical men entrusted with the care of invalids. He had examined, and reported upon, for THE LANCET samples of meat preparations which were without preservatives, and therefore he thought that he might conclude that they were not necessary. He was of opinion that in some cases and at certain seasons the use of a preservative could not be dispensed with, and he thought that the preservative should be specified by statute and a maximum limit prescribed. In any case, he thought the fact of an article of food being preserved should be notified and a purchaser should be able to demand an article free from preservative. He would schedule foods into which preservatives were to be allowed to be added and he would schedule also the maximum limit of preservative. He considered that this arrangement was quite feasible and would not unduly harass the trade. His idea was that legislation should be directed against the abuse rather than against the use of preservatives. A point to be remembered was that there must be a limit to the antiseptic power of a given preservative. If so many grains were required to preserve a certain quantity of milk and that number were present it was obvious that after preserving the milk, the preservative could not have much power to act upon the organism. He had examined a sample of peas which contained six grains of crystallised copper sulphate per pound of peas.

By Professor THORPE: He had examined samples of tinned peas which did not contain any copper. He spoke guardedly upon the question of peas, because the subject had not been cleared up from the physiological point of view as to what was the effect of the copper compound upon the organism and until that was known he did not think it wise to lay down any very precise pronouncement on the subject. The circumstance that the copper might not be uniformly distributed would not interfere with the administration of a statutory limit, because a considerable quantity of the article could be examined. In examining peas for THE LANCET he had always done the work in duplicate and had the assistance of his colleagues and the results obtained were usually the same.

By the CHAIRMAN: The samples without copper were certainly of inferior colour and would not appeal to the public in a general way; they were more on the side of yellow than of green.

By Dr. BULSTRODE: He was strongly of opinion that in every case the purchaser should be made aware of the presence of a preservative. He could not say without reference to the files of THE LANCET when boric acid began to be used as a preservative, but he would be pleased to consult the files and furnish the Committee with the information. He would also endeavour to get similar information with regard to the other preservatives now in use.

THE LANCET about a year ago undertook an inquiry by means of sending out different questions to medical men and physiologists asking their opinion as to the use of preservatives?—Yes.

In a paper to THE LANCET on Nov. 11th, 1899, Dr. H. E. Annett, referring to these opinions, said: "These were unanimously of the opinion that the use of antiseptics in food was injurious to health, but they could produce no direct evidence in support of their opinions." Do you consider that correct?—Yes, I believe that is a correct summary of the evidence.

You would not summarise the evidence by saying that the preponderance of it was that the nature of the preservative should be labelled?—I think the summary given by Dr. Annett is correct.

I went through the evidence in THE LANCET and I rather came to the conclusion that the opinion was that, in the first instance at any rate, labelling would meet the case.—But the inquiry had reference not to labelling, but to the injury to health.

This concluded Mr. Vasey's examination and the Committee adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAMSON, C. H., M.B., M.S., F.R.C.S. Edin., has been appointed Medical Officer by the Edmonton District Council.

ALDRED, J. WHITE, M.B., Ch.B. Vict., has been appointed House Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

BARKER, E. MARRIOTT, M.A., M.B., B.C. Camb., L.R.C.P., M.R.C.S., has been appointed Honorary Medical Officer to the Chelsea Hospital for Women Convalescent Home, St. Leonard's-on-Sea.

DOUGLAS, CARSTAIRS C., M.D., B.Sc. Edin., has been appointed Professor of Medical Jurisprudence, Anderson's College Medical School, Glasgow, vice R. M. Buchanan, resigned.

FENN, C., E., M.B., M.R.C.S., L.R.C.P., has been appointed House Accoucheur to King's College Hospital, Lincoln's Inn Fields, London.

FERGUSON, J. M., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the New Sanatorium for Infectious Diseases, Burnley.

HADLEY, F. A., M.R.C.S., L.R.C.P., has been appointed Assistant House Physician to King's College Hospital, Lincoln's Inn Fields, London.

HILLYAR, G. H. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Much Wenlock Sanitary District of the Madeley Union, vice A. G. Mackenzie, resigned.

JOYNES, FRANCIS J., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Dursley (Glos.) Board of Guardians and Rural District Council.

KNOWLES, BEATRICE, M.B., B.S. Lond., has been appointed First Assistant Medical Officer to the Bethnal Green Workhouse.

LITTLEJOHN, E. SYDNEY, B.A. Sydney, M.D., C.M. Edin., has been appointed Honorary Medical Officer to the Out-patient Department, Sydney Hospital for Sick Children, New South Wales.

MACKAY, HUGH J. D., L.R.C.P., L.R.C.S. Edin., L.F.P. & S., has been appointed Medical Superintendent of Aston Hall, Warwickshire.

MAYON, S. M., M.R.C.S., L.R.C.P., has been appointed House Surgeon to King's College Hospital, Lincoln's-Inn-Fields, London.

MCMULLEN, W. H., M.R.C.S., L.R.C.P., has been appointed Junior House Physician to King's College Hospital, Lincoln's-Inn-Fields, London.

MEACHEN, G. N., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Tottenham Hospital, N.

MOLINEUX, J., M.D. St. And., M.R.C.S., has been appointed Medical Officer of Health for the Hessle Urban District.

ROBERTS, G. A., M.R.C.S., L.R.C.P., has been appointed Senior House Physician to King's College Hospital, Lincoln's Inn Fields, London.

SAVAGE, W. GEORGE, B.Sc., M.B., L.R.C.P. Lond., M.R.C.S., D.P.H. has been appointed Bacteriologist and Lecturer at the Cardiff and County Public Health Laboratory.

STRATFORD, H. B., M.R.C.S., L.R.C.P., has been appointed House Surgeon to King's College Hospital, Lincoln's Inn Fields, London.

STUART, HACKWORTH, M.R.C.S., L.R.C.P., has been appointed Assistant Resident Medical Officer to the London Temperance Hospital.

TWENTYMAN, J. M., B.A., B.Sc., L.S.A., has been appointed Assistant House Accoucheur to King's College Hospital, Lincoln's Inn Fields, London.

VOSPER, P., M.R.C.S., L.R.C.P., has been appointed House Surgeon to King's College Hospital, Lincoln's Inn Fields, London.

WAGGETT, ERNEST, M.B., B.C., has been appointed Surgeon to the London Throat Hospital.

ARDMAN, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Township of Manchester, vice J. M. S. Preston, resigned.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident Assistant House Surgeon. Board, lodging, and washing in the Hospital provided.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £150 per annum, with an allowance of £30 per annum for cab hire, and furnished rooms, fire, lights, and attendance.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £50 per annum, with apartments and board.

BLACKBURN AND EAST LANCASHIRE INFIRMARY, Blackburn.—Junior House Surgeon. Salary to commence at £60 per annum, with board, washing, lodging, &c.

BRADFORD POOR-LAW UNION.—Two resident Assistant Medical Officers for the Hospital and Workhouse of the Union. Male or female for one year, unmarried. A Senior at a salary of £150 and a Junior at a salary of £100, with prescribed rations, apartments, and washing for each. Apply to the Clerk to the Guardians, 22, Manor-row.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Board and residence provided in the hospital.

COUNTY COUNCIL OF SALOP.—County Medical Officer of Health. Salary £750 per annum, to include all travelling and other expenses, except office and stationery. Applications to Mr. E. C. Peele, Shirehall, Shrewsbury.

FLINTSHIRE DISPENSARY, Holywell.—Resident House Surgeon. Salary £120 a year, with furnished house (rent and taxes free), and coal, light, and water, or in lieu thereof £7 a year.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—Resident Medical Superintendent for one year. Salary 100 guineas per annum, with board and residence in the Hospital. Also House Surgeon for six months. Salary £20, with board and residence in the Hospital. Also House Physician for six months, unmarried. Salary £20, with board and residence in the Hospital.

LIVERPOOL EYE AND EAR INFIRMARY.—House Surgeon. Salary £80, with residence and maintenance.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer for one year, unmarried. Salary £150, with board and residence.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Registrar. Honorarium, annually, of 50 guineas.

NORTHAMPTON GENERAL INFIRMARY.—Assistant to the House Surgeon for six months. Board, lodging, and washing provided, and an honorarium of £25 at the end of that term.

NORTH-EASTERN HOSPITAL FOR CHILDREN, London.—House Physician for six months. Salary at the rate of £50 per annum. Apply to the Secretary, City Office, 27, Clement's-lane, E.C.

NORTH RIDING INFIRMARY, Middlesbrough-on-Tees.—House Surgeon. Salary £100 a year, with lodging, board, and washing.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-on-Trent.—House Governor and Secretary. Salary £300 a year, non-resident.

PARISH OF ST. PANCRAS, London.—Senior Assistant Medical Officer for the Workhouse for two years. Salary £125 for the first year and £135 for the second year, with residential allowances. Also a Junior Assistant Medical Officer for one year. Honorarium £60, and residential allowances. Apply to the Clerk to the Guardians, Vestry Hall, Pancras-road, N.W.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Commencing salary £150 per annum, with furnished rooms, fire, lights, and attendance.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London.—Assistant Physician.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SURREY DISPENSARY, Southwark, S.E.—Resident Medical Officer. Salary £120 per annum, with furnished apartments, coals, gas, and attendance. Apply to the Secretary, 53, Borough High-street, Southwark.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, washing, and lodging in the Hospital.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon (to act as Secretary). Salary £50, with board, lodging, and washing.

UNIVERSITY OF EDINBURGH.—Additional Examinerships in Materia Medica and Clinical Surgery. Salary of the Examiner in Materia Medica £75 per annum, and that of each of the Examiners in Clinical Surgery, £50 per annum. An allowance of £10 per annum given conditionally.

VICTORIA INFIRMARY OF GLASGOW.—Superintendent and Resident Medical Officer. Salary £300 per annum, with board in the Infirmary and a free house.

WEST KENT GENERAL HOSPITAL, Maidstone.—Assistant House Surgeon for six months. Honorarium at the rate of £50 per annum, with board and residence.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months. Board and lodging provided.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer to the Provident Dispensary attached to the Hospital. Salary £90 per annum, with board, lodging, and washing.

WREXHAM INFIRMARY.—House Surgeon. Salary £30 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

EUSTACE.—On Nov. 18th, at Cheltenham, the wife of Surgeon-Lieutenant-Colonel Edward Eustace, of a son.

MORTON.—On Nov. 17th, at Brislington, Bristol, the wife of W. B. Morton, M.D., of a son.

WOLFE.—On Nov. 13th, at "The Limes," Hoe-street, Walthamstow, the wife of Robert Inglewood Wolfe, surgeon, of a son, who survived his birth only a few hours.

WOODS.—On Nov. 17th, at Westbury, Hornsey-lane, N., the wife of Hugh Woods, M.D., of a son.

MARRIAGES.

BUNDEY—MACKAY.—On Nov. 15th, at Christ Church, Streatham-hill, Harry Marchant Bundey, M.B., C.M. Edin., of Honor Oak Park, S.E., to Isabella, third daughter of the late George Mackay, Bella Vista, Duddingston, Edinburgh.

ESKELL—CORPER.—On Nov. 15th, at Upper Berkeley-street, Eustace Lewis Eskell, L.D.S., R.C.S. Eng., Onslow-place, South Kensington, S.W., to "Jennie," fourth daughter of the late J. Corper of Canonbury.

FARQUHARSON—FLETCHER.—On Nov. 21st, at the Parish Church, Broughton-in-Furness, by the Rev. James Cropper, Vicar, William Frederick Farquharson, M.D., Medical Superintendent of the Cumberland and Westmorland Asylum, Carlisle, to Lucy Allason, daughter of the late Henry Allason Fletcher, of Croft Hill, Whitehaven, and of Mrs. Gillings, Broughton-in-Furness.

MORRISON—BETTY.—On Nov. 18th, at St. Etheldreda's, Hatfield, Herts, Alexander Morrison, M.R.C.S., L.R.C.P., South Croydon, to Louisa, youngest daughter of Richard Betty.

DEATHS.

HICKS.—On Nov. 18th, at Hendon, Henry Hicks, M.D., F.R.S., aged 62 years.

LAKEMAN.—On Nov. 14th, at 30, Church-street, Modbury, Thomas Lakeman, M.R.C.S., L.R.C.P., aged 34. Friends please accept this (the only) intimation.

SHAPLEY.—On Nov. 15th, of typhoid fever, Frank Shapley, M.R.C.S., L.S.A., of Maison Rouge, Sidcup, Kent, aged 42.

WALKER.—On Nov. 12th, at Margate, Frederick Hanson Walker, M.R.C.S., L.R.C.P., of Blagdon, Putney, aged 31.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PROPER APPLICATION OF THE MUZZLE.

WHEN persons who do not quite understand what they are talking about, and who have convictions founded not upon the sure bases of sifted knowledge and authoritative information but upon the dictates of their private sentiments, orate at length, pass violent resolutions, and strain every nerve to get such resolutions propagated and, haply, supported by the press, they become subjects for the proper application of the muzzle. No one has ever desired to put a muzzle upon a healthy dog of either sex, but when the dog becomes a danger or even a nuisance to others he ought to be muzzled. In spite of the ranting that is occasionally bro ght to our knowledge we do not think anyone holds a different view, though opinions may vary as to what constitutes a danger or a nuisance. And in the matter of the prevention of hydrophobia medical men can do much for the community by pointing out what is the risk of hydrophobia in this country now and what it was before the enforcement of muzzling.

On Friday, Oct. 27th, the day on which the muzzling order for the metropolitan and some other districts was revoked, we learn from Captain F. E. Purkis, chairman of the National Canine Defence League, that the executive and members of the League passed unanimously the following resolutions which have been duly forwarded to the Prime Minister:—

1st.—Proposed by Colonel Gordon, R.A., seconded by Mr. R. Dawson-Yelverton, late Chief Justice of the Bahamas:—

"That this meeting rejoices at the withdrawal of the muzzling order from the metropolitan and other districts and sincerely hopes that such withdrawal indicates an abandonment of a method useless for the purpose designed, cruel in its operation, and involving personal indignities and expense to dog owners."

2nd.—Proposed by the Viscountess Harberton, seconded by Mrs. James:—

"That this meeting desires to reiterate its conviction as to the desirability of the retirement from office of the Minister responsible for such useless, cruel, and irritating measures for the extirpation of a disease *whose existence in the metropolis and elsewhere has never been adequately attested*, the figures adduced to prove such existence having been collected by means of a test which the Department last year condemned and discarded as unreliable."

These two resolutions show the temper and spirit in which the humanitarian members of the National Canine Defence League approach a subject of vital importance to the health of the community. Colonel Gordon, R.A. (doubtless an excellent specimen of his valuable arm of the service), and Mr. Dawson-Yelverton, the late Chief Justice of the Bahamas (whom we seem to remember playing an amiable and injudicious part in the agitation for the reprieve of the Leavesden murderess), make themselves responsible in the first resolution for the statement that the muzzling order was useless for the purpose for which it was designed. This shows that they either do not know for what purpose the order was designed, or that they have not studied, or have not understood, the figures recorded by the Board of Agriculture dealing with the returns made under the Diseases of Animals Act for the last few years. The resolution to which they have given the countenance of their military and legal authority, speaks of the personal indignities and expenses in which the regulations for the muzzling of dogs involved the owners of dogs, and we cannot help thinking that it expresses rather the petty annoyance of persons resenting inconvenience to their dogs than the statesmanlike desire of good citizens to promote the health of their nation. Let it be granted for the purposes of argument—and for those purposes only—that the regulations for the muzzling of dogs might in some details have been improved upon and certain sources of irritation and annoyance thus avoided, does that excuse Colonel Gordon, R.A., and Mr. R. Dawson-Yelverton, late Chief Justice of the Bahamas, in the teeth of recorded facts calling the muzzling order "useless for the purpose designed"? We think not. The Viscountess Harberton, seconded by Mrs. James, makes herself responsible for exactly one of those personal attacks upon Mr. Walter Long to which we referred when we said in an article on Nov. 4th referring to the removal of the muzzling order in London:—"We doubt if ever an English Minister has been subjected to such hysterical and idle accusations as have fallen to the lot of Mr. Long for doing what he conceived to be his duty towards the public." Her ladyship clamours for the personal degradation of the Minister whose duty it has been to administer the law.

We are all for free speech. We do not desire any but dogs who have the chance of doing mischief to be muzzled. And we desire instruction from all who can give it, whatever their point of view. A wise man learns from his adversaries and healthy discussion never did any cause harm. But the persons who offer information, particularly the persons who employ such words as "useless" and "cruel," when putting forward their views, ought to be in a position to know what they are talking about and to prove that they have taken all pains to place themselves in possession of easily ascertainable facts. We might be willing to read (in other columns than our own) the opinion of Colonel Gordon, R.A., upon, say, the investment of Ladysmith; or of Mr. Dawson-Yelverton, late Chief Justice of the Bahamas, upon, say, the climate of Nassau; or of the Viscountess Harberton on the æsthetics of dress. But all three are entirely out of their sphere when descanting upon pathology. Medical men will do good service to the public by pointing out when occasion arises what are the real facts with regard to dog-muzzling, and what is the proper meed of attention to be paid to the views of Colonel Gordon, R.A., Mr. Dawson-Yelverton, late Chief Justice of the Bahamas, and the Viscountess Harberton upon the prevention of canine rabies.

WHAT IS MY DUTY?

To the Editors of THE LANCET.

SIRS,—A year ago I had a young man under treatment for syphilis. He came to me with a neglected primary sore and a copious secondary eruption. I treated him for some months. He is still suffering from the disease but has lately neglected to use the specific remedies.

I am informed upon reliable authority that he is engaged to be married to a charming girl whom I know well. I have reason to believe that there is strong attachment on her side and that marriage may take place at an early date.

If I had as good grounds for believing that this man was about to poison this woman with arsenic and neglected to take every means in my power to prevent it I should be held guilty of a serious crime: am I to allow her to be poisoned with syphilis?

I shall act in this latter case as I would in the first, but I beg you to help me and many others who must at times be similarly situated by speaking with the authority with which the profession and the public have endowed you. What is my duty?

I am, Sirs, yours faithfully,

Oct. 22nd, 1899. SURGEON.

*** The most strict secrecy ought to be observed under all the ordinary and most of the extraordinary circumstances of life by the medical man with regard to his patients. But occasionally it is difficult to counsel the absolute observation of the rule, and "Surgeon" describes just one of those situations where the medical man may well feel that it is his ordinary duty to humanity to violate the confidence reposed in him by his patient. We think he should first try the effect of remonstrating with the man, and if this fails he must follow the dictates of his conscience if they prompt him to warn the girl.—ED. L.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—May I inquire through THE LANCET if there is an institution where an epileptic girl, aged 22 years, could be admitted for a small weekly payment of 10s., or if a suitable private home could b found for her? She is able to do light house-work and can sew well. She has a "fit" sometimes with a three months' interval. She require a firm supervision. I am, Sirs, yours faithfully,

Luton, Beds, Oct. 24th, 1899. HENRY PAULL.

LONGEVITY OF RAINFALL OBSERVERS.

MR. G. J. SYMONS, F.R.S., in his "British Rainfall for 1898," just issued by Mr. E. Stanford, remarks:—"We have frequently referred to the long life of rainfall observers; this year again proves it. We have the age at death of 37 observers: 21 of them were over 70, 13 over 80, and three over 90" (Report, p. 67). In Symons's "British Rainfall for 1897" the editor notes: "We have heard the age at death of only 29 out of the 56 observers whose loss we have to record, and we find that, as usual, the age was very considerable: the youngest was 51, the oldest 88, the average being 72, and more than two-thirds were over 70" (Report, p. 58). The revered friend of all British naturalists, the Rev. Gilbert White, M.A., the author of "The Natural History of Selborne," the fame of which is world-wide, was 73 years of age when he died, having been born in this little village, of which he was rector for many years, on July 18th, 1720, and died on June 26th, 1793. During 1897 Mr. Symons tells us that the following deceased observers left records for 30 years or more in the order of length of time: 37 years, Dr. Cruickshank of Aberdeen; 35 years, Mr. Cooke of Ormskirk; 33 years, Mr. Birkbeck of Norwich; 33 years, Reverend J. Mackereth of Eccles and Windermere; and amongst those who died in 1898 was "Mr. Prince, F.R.A.S., of Uckfield and Crowborough, whose MS. records covering 58 consecutive cases, and forming one of the best records in the S.E. of England, have happily been left to the Royal Microscopical Society—the best place for all such volumes."

A QUESTION ON PROFESSIONAL ETIQUETTE.

To the Editors of THE LANCET.

SIRS,—Y is a small parish about two miles from my residence, and I attend quite 99 per cent. of the people there and am medical officer of a charity including this parish. A medical man residing more than seven miles from me holds the Poor-law appointment. On the 8th inst. at 8 P.M. I received a message to come and see a member of club of which I am medical officer. On inquiry the messenger informed me that the patient had been ill since the 4th inst., and as I knew the sort of man that he was I sent word back that I would see him in the morning. About 9 P.M. I received another message to come

and see the patient at once as he was dying. I went, and on arrival I found him suffering as I suspected that he would be and not dying. I prescribed for him and the messenger received the medicine at 10.30 P.M. At 4 A.M. on the 9th, six hours after I had seen the patient, I had another message asking me to come at once as he was dying. I sent back word that he was to go on with the medicine which I had prescribed for him and which he had received about five hours previously and that I would see him again after my breakfast. A message was then sent off to the Poor-law medical officer to the case asking him to come at once as the patient was dying, who went, and he has attended the patient since. As this gentleman attends so few people in Y and knows I attend them nearly all, I have informed him that he acted unprofessionally in not inquiring if any medical man was attending the patient before he went. He says that he acted strictly professionally.

Kindly give me your opinion whether my medical neighbour acted professionally: (1) in going at once to see the patient in Y district without first inquiring whether I or any other medical man was in attendance; and (2) in agreeing to take the case out of my hands when he found on arrival at the patient's house that I had been there some hours previously. I am, Sirs, yours faithfully,

Nov. 14th, 1899. X. Y. Z.

*** We give our opinion based upon the facts as supplied by our correspondent: (1) the second medical man was right to attend the case for he believed that he was going to a dying man; (2) but on learning the circumstances—if, by the way, he did learn them—he should have resigned the case. The patient, of course, has a perfect right to change his medical attendant.—ED. L.

FEES FOR GIVING EVIDENCE.

Inquirer writes: "I attended the assizes recently and gave evidence in two separate cases on the same day. Would you kindly say if I should receive a fee for each case or only the fee—viz., one guinea?"

*** Undoubtedly our correspondent is entitled to receive a fee for each case. It would be just as reasonable to contend that a medical man could only claim one fee for attendance on two or more patients in the same house or street. If both cases were heard on the same day he would be paid only single travelling expenses.—ED. L.

SCARLET FEVER AT GORTON.

DR. E. VIPONT BROWN has written to the *Manchester Courier* drawing attention to what he rightly terms a "public danger." On Nov. 4th he was called to visit a cottage in Gorton which was occupied by a man and his wife and two children. He found both children suffering from scarlet fever, and as the woman (who was very delicate) was on the eve of her confinement he not only had the cases certified in the usual way but added a note that the children should be at once removed to the hospital. In spite of every effort on Dr. Brown's part this was not effected at the time of writing (Nov. 17th). The children were in bed, waited upon during the day by their mother and by night by their father, who is engaged during the day-time in a wall-paper warehouse in Manchester. Dr. Brown called twice upon the medical officer of health for Gorton, but was unable to meet him. The inspector, however, said that the removal of the children would cost the ratepayers 50s. per week and this was an expense which could not be incurred. Dr. Brown has done good service in drawing public attention to this incident. Puerperal scarlet fever is a most dangerous affection, and for a woman expecting to be almost immediately confined to have to attend upon two children suffering from scarlet fever because the parish authorities refuse to remove them is a state of affairs that certainly ought to be thoroughly inquired into. We have not heard what the medical officer of health was able or unable to do under the circumstances, but some measures ought to have been taken to protect the mother from the serious risk of infection.

ADVERTISING.

A CORRESPONDENT has sent us the following cutting from the *Redditch Indicator*:—

> Mr. Whitehead, honorary dental surgeon to the Smallwood Hospital, may be consulted daily, except Wednesday, at his central address, Church Green East (opposite the Hospital).

We find in the Dental Register the name of a Mr. Whitehead, a dentist at Redditch. Surely a registered dentist should feel that to appeal thus to the public on the ground of a hospital appointment—or, for that matter, on any ground—is contrary to the professional etiquette of his calling.

"GRATITUDE."

To the Editors of THE LANCET.

SIRS,—In reference to Dr. S. F. Smith's letter I should like to say that I have found it a good, plan when wishing to reduce an account to a nominal figure, to send in a bill for the attendance at ordinary minimum rates, appending a note at the bottom as follows:—

"In consideration of Mrs. ——'s circumstances Dr. Maxwell will be happy to accept £—— if paid before ——— 189–."

I am, Sirs, yours faithfully,

Woolwich. T. MAXWELL.

A TRAINING FIELD FOR COTTAGE NURSES.

To the Editors of THE LANCET.

SIRS,—Can any of your readers tell me of some districts of London or its suburbs where nurses for the poor are needed? The associations which I represent want to establish in some rather crowded slum a little training home where two or three highly trained lady nurses whilst tending the sick of the district might impart the elements of home-nursing to pupils of the working-class already trained as monthly nurses. These women would afterwards be employed in rural districts as cottage nurses under our associations.

I am, Sirs, yours faithfully,

BERTHA M. BROADWOOD, Honorary Secretary.

Affiliated Benefit Nursing Associations, 12, Buckingham Palace-road, S.W.

Partner.—We regret that delay has occurred in answering our correspondent. The reply covers both questions. An unqualified assistant cannot "jointly work a practice." If he tries to do so his qualified partner will soon cease to be a member of the medical profession. A medical man can make any undeclared arrangements of partnership with his qualified assistant. He can also take a layman as a sleeping partner, but the proceeding is very inexpedient for obvious reasons.

Thistle.—We find the charges very reasonable. If they are not agreed to we advise our correspondent to resign the appointment as his pecuniary circumstances allow him to do so. To abate his terms might be construed as a confession of previous overcharges.

Mr. G. H. Sowry.—These circulars have been brought to our attention before. Similar ones have already been sent to Scotland Yard, but the authorities have instituted no prosecutions.

A. W.—Our correspondent will find a list of societies such as he desires to know about, with the names and addresses of secretaries in THE LANCET of Oct. 21st, 1899, p. 1127.

N. S.—We consider that the second medical man was quite right to attend the case in the circumstances detailed by our correspondent.

H. A. D.—The matter is one to which we have before now made reference. We hope to return to it.

P. W.'s medical man has advised him correctly. No special treatment is required.

H. H. (Wellingborough) is thanked for his interesting and timely communication.

M. D.—We think B quite within his rights to compete for the appointment.

J. W— D.—We have been unable to trace the article in question.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.) Cancer (2 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (2.15 P.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Ordinary Meeting. Mr. Mansell Moullin: Excision of the Vesicula Seminales—Dr. H. A. Caley: Prognosis in Appendicitis; with Notes of 200 Cases.

TUESDAY (28th).—SOCIETY OF APOTHECARIES OF LONDON.—4 P.M. Professor Nestor Tirard: The Pharmacopœia in its Relation to Medical Men: Scope; Limitations; Influence on Practice; Additions.

CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—8 P.M. Mr. C. W. Kimmins: The Waste of Mental Energy in Children.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on the Open-air Treatment of Tuberculosis, to be opened by Sir R. Douglas Powell, Bart.

FRIDAY (1st).—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Sir Felix Semon, Dr. Powell, Dr. Bronner, Dr. Waggett, Dr. Pegler, Mr. Butlin, Mr. Roughton, Mr. Wingrave, and others.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Dr. Walter Copestake: A Combined Inhaler for Ether, Chloroform and A.C.E. Mixture.—Clinical Cases by Mr. McCardie, Mr. R. W. Lloyd, Mr. Turle Bakewell, and others.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—8.30 P.M. Cases:—Mr. McAdam Eccles: (1) Excision of Carcinoma of Ascending Colon; (2) Wiring in an Ununited Fracture of the Tibia, with Skiagram by Dr. F. H. Low.—Mr. Bidwell: (1) Two Sisters from whom Thyroid Cysts have been Removed; (2) Pylorectomy.—Mr. Keetley: (1) Extensive Suppuration of the Abdominal Wall; (2) Tumour of the Extroverted Bladder.—Dr. George Johnston: Intracranial Growth affecting the First Eight Cranial Nerves.—The President: Lupus (?) of the Tongue. And other cases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Mr. Wyatt Wingrave: The Pathology of Nasal Obstruction.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Robinson: The Causes and Treatment of Pelvic Pain.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. St. Clair Thomson: Consultation (Nose and Throat).

TUESDAY (28th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-sq., W.C.).—3.30 P.M. Mr. Gunn: Optic Neuritis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—6 P.M. Dr. Seymour Taylor: Physical Diagnosis (Demonstration III.).

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Clinical Demonstration:—Dr. Fletcher Beach: Cases of Epilepsy and other Convulsive Disorders.

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—4.30 P.M. Dr. Cathcart: Syphilitic Affections of the Pharynx and Larynx. (Post-Graduate Course.)

WEDNESDAY (29th).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Maguire: The Progression of Phthisical Lesions.

THURSDAY (30th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Treatment of Diseases of the Nasal Sinuses.

CHARING-CROSS HOSPITAL.—4 P.M. Mr. Wallis: Demonstration of Surgical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Some Urinary Disorders of Childhood.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—6 P.M. Dr. J. Edward Squire: Physical Diagnosis (Demonstration IV.).

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Percy Dunn: External Diseases of the Eye.

FRIDAY (1st).—LONDON THROAT HOSPITAL (204, Gt. Portland street, W.).—4.30 P.M. Dr. Stoker: Chronic Glandular Diseases of the Nose and Naso-pharynx. (Post-Graduate Course.)

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them. Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 23rd, 1899.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Nov. 17	30·67	E.	...	55	51	46	45	47	Foggy
,, 18	30·63	N.E.	...	56	49	40	41	43	Foggy
,, 19	30·41	N.E.	...	49	47	42	44	47	Foggy
,, 20	30·23	S.W.	...	55	51	38	42	43	Overcast
,, 21	30·43	S.W.	...	52	49	40	40	41	Foggy
,, 22	30·40	W.	...	55	52	41	47	49	Overcast
,, 23	30·39	S.W.	...	54	52	48	46	49	Overcast

During the week marked copies of the following newspapers have been received: *Oswestry Advertiser, Eastern Daily Press, Macclesfield Courier, Bath Herald, Accrington Observer, Western Mail, Ealing Guardian, Evesham Journal, Market Harborough Mail, Surrey Mirror, Free Press (Tonbridge), Wiltshire Advertiser, Lisburn Standard, East Daily Press, Leicester Daily Post, Sheffield Daily Telegraph, West Morning News, Framlingham Weekly News, Manchester Guardian, Whitby Gazette, Leeds Mercury, Colliery Guardian, New York Herald (Paris), Swindon Advertiser, Brighton Gazette, Liverpool Daily Post, Times of India, Pioneer Mail, Citizen, Scotsman, Builder, Yorkshire Post, Architect, Melbourne Age, Bristol Mercury, Dundee Advertiser, East Anglian Daily Times, Sanitary Record, Madras Standard, Herefordshire Mercury, Luton Reporter, Reading Mercury, Mining Journal, Local Government Chronicle, City Press, Local Government Journal, Bolton Daily Chronicle, Surrey Advertiser, South West Suffolk Echo, Glamorgan Free Press, Leamington Chronicle, Llandudno Directory, Shrewsbury Chronicle, Stockport Advertiser, Loughton Examiner, Oxford Chronicle, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Aston Hall, Sutton Coldfield, Secretary of; Messrs. Armour and Co., Lond.; Messrs. Gordon Alexander and Co., Lond.; Mons. J. Astier, Asnières, France; Mrs. Alleyne, Scarborough; A.W.; Dr. Christopher Addison, Sheffield.

B.—Messrs. Brady and Martin, Newcastle-on-Tyne; Mr. W. H. Brett, Morpeth; Messrs. T. B. Browne, Ltd., Lond.; Messrs. Battle and Co., Neuilly sur Seine; Mr. C. Birchall, Liverpool; Dr. Barclay-Allardice, Lostwithiel; Messrs. Brand and Co., Lond.; Dr. R. Beattie, Dewsbury; Mr. R. J. Blackett, Lond.; Mr. George Brown, Lond.; Dr. A. Bronner, Bradford; Buntingford House Retreat, Herts, Medical Superintendent of; Messrs. Beale, Ltd., Lond.; Herr A. Bergsträsser, Stuttgart; Mr. J. Bigg, Barnes; Mr. F. R. Bennett, Lond.; Messrs. Bedford and Co., Lond.; Messrs. A. L. Bolteau, Angoulême; Mr. W. H. Brooks, Leicester; Mr. D. A. Bellios, Lond.; Dr. A. G. Bateman, Lond.; Mr. T. Boulton, Bolton; Messrs. Bale, Sons, and Danielsson, Lond.; Colonel Barrington-Foote, Lond.

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E.—Mr. G. H. Edington, Glasgow; Examination Hall, Lond., Secretary of; East Suburban Medical Protection Society, Secretary of; Messrs. Evans and Wormull, Lond.

F.—Dr. Forbes-Leslie, Lond.; Dr. W. T. Fernie, Folkestone.

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I.—Irish Medical Association, Secretary of.

J.—Dr. Edward Jepson, Durham; Messrs. Jarrold and Sons, Great Yarmouth; Mr. V. A. Jaynes, Lond.

L.—Mr. F. Lowndes, Liverpool; Professor Lindsay, Belfast; Mr. C. Lund, Newcastle-on-Tyne.

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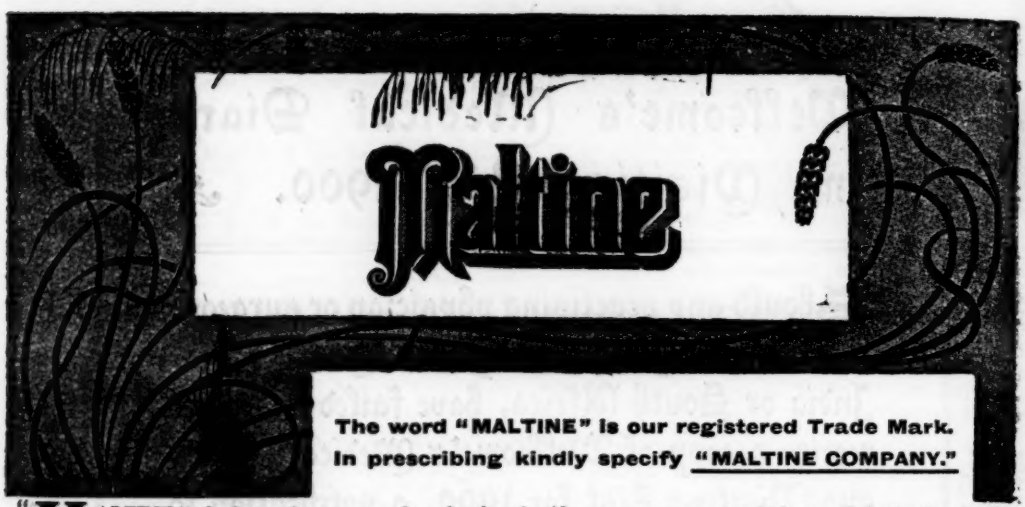

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"As regards diastase, 'MALTINE' is far superior to the best extracts of malt I have ever seen."—**Dr. STUTZER, BONN.**

The delicate flavour and convenient consistence of "MALTINE" recommend it to patients who cannot take the dense, unpalatable extracts.

We shall be pleased to send Samples Free of Charge to Medical Men.

The Maltine Manufacturing Company, Limited,

24 & 25, HART STREET, BLOOMSBURY, LONDON.

List of "Maltine" Preparations:—

"MALTINE" PLAIN.
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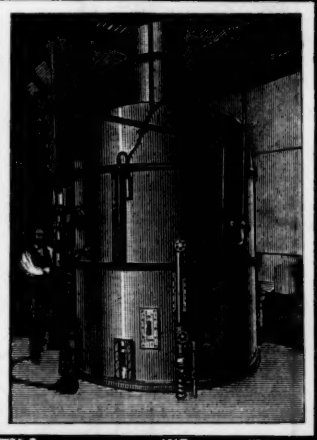
IS admittedly the most Palatable preparation of Cod-Liver Oil that has yet been achieved. Physicians generally are much struck by the way in which "MALTINE" with COD-LIVER OIL is borne by delicate patients who could not tolerate the oil in any other form. The success with which the taste of the oil is disguised, its satisfactory proportion, its assimilability (secured by our special process), and the convenient consistence of the preparation have combined to render "MALTINE" with COD-LIVER OIL one of the most popular of Reconstructive Agents.



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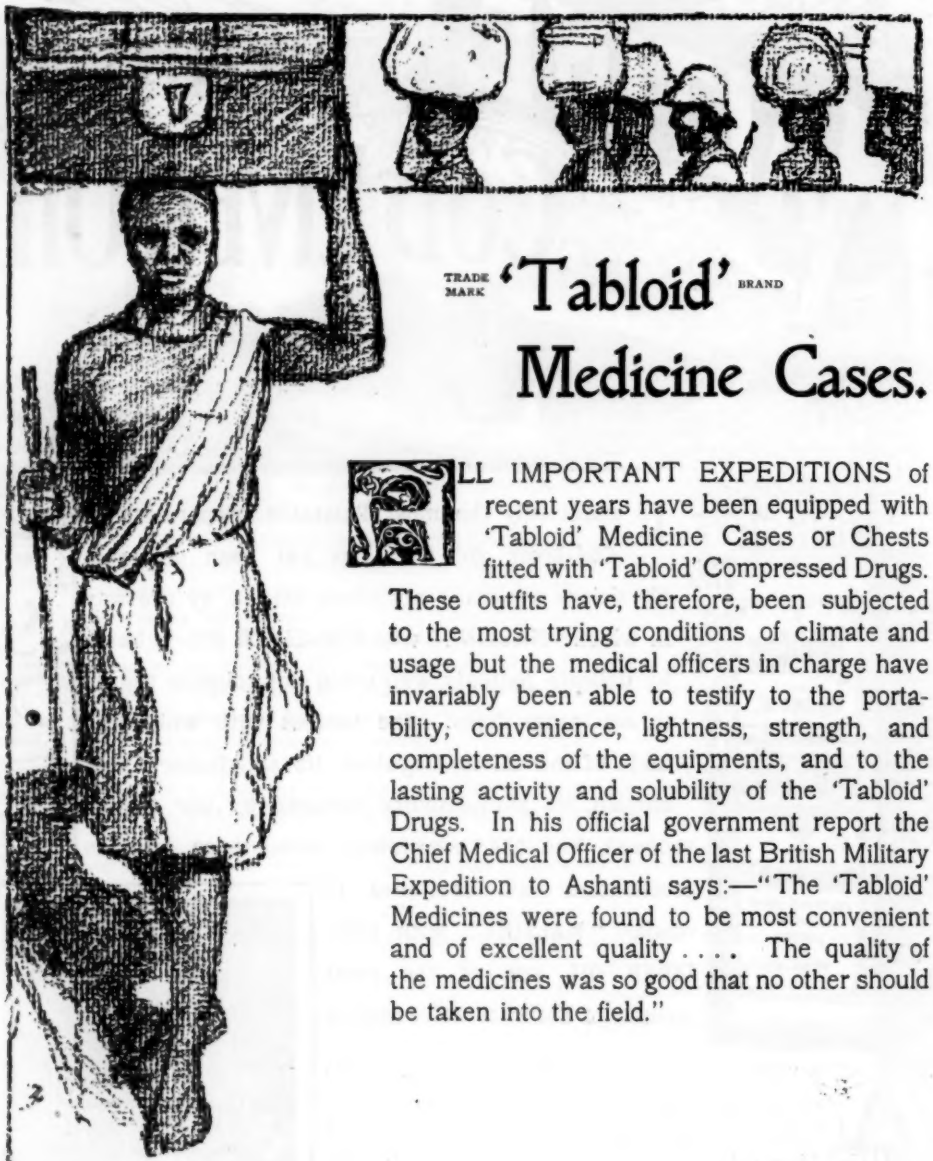
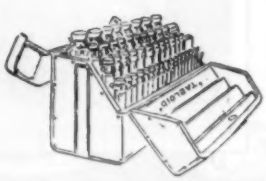


TRADE MARK **'Tabloid'** BRAND

Medicine Cases.

ALL IMPORTANT EXPEDITIONS of recent years have been equipped with 'Tabloid' Medicine Cases or Chests fitted with 'Tabloid' Compressed Drugs. These outfits have, therefore, been subjected to the most trying conditions of climate and usage but the medical officers in charge have invariably been able to testify to the portability, convenience, lightness, strength, and completeness of the equipments, and to the lasting activity and solubility of the 'Tabloid' Drugs. In his official government report the Chief Medical Officer of the last British Military Expedition to Ashanti says:—"The 'Tabloid' Medicines were found to be most convenient and of excellent quality .... The quality of the medicines was so good that no other should be taken into the field."



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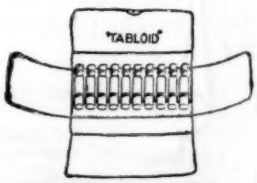
CONGO 'TABLOID' MEDICINE CHEST.



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'Tabloid' Brand
Cascara Sagrada
(Dry Extract),
gr. 1, gr. 2, and gr. 3.
(Plain or Sugar-Coated.)

Cascara Sagrada Extract of the finest quality, prepared by an original process from the true cascara sagrada, specially selected and matured.

gr. 1, bottles of 25, -/4; bottles of 100, -/9
gr. 2, „ „ -/5; „ „ 1/-
gr. 3, „ „ -/6; „ „ 1/4

'Tabloid' Brand
Blaud Pill and Cascara
(Sugar-Coated).

℞ Pil. Ferrug. (Blaud) ... ... gr. 4
(= 20 % *Ferri Carbonatis*)
Ext. Cascaræ Sag. Sic. ... ... gr. ½

Provides the means of administering iron, in its most assimilable form, to patients exhibiting a tendency to constipation.

Bottles of 100, 9d. per bottle.

TRADE MARK 'Tabloid' BRAND
Compressed Drugs
Burroughs Wellcome & Co.,
LONDON and SYDNEY.

'Tabloid' Brand
Blaud Pill, gr. 4.
(Representing 20 % of Ferrous Carbonate.)
(Plain or Sugar-Coated.)

Does not contain pre-formed ferrous carbonate, but the materials which in the gastric juice produce ferrous carbonate: thus it constitutes an ideal form for administering the simplest and most readily assimilated salt of iron.

Bottles of 100, 9d. per bottle.

Avoid Imitations.

The general appreciation and adoption of the fine pharmaceutical products of B. W. & Co. by the medical profession throughout the world have encouraged imitators to offer crude substitutes. As the use of such inferior imitations is liable to prove injurious to patients, medical men are requested to report any cases of substitution which may come under their notice. To ensure the supply of pure and reliable preparations physicians should specify the trade mark brand or use the distinguishing initials B. W. & Co.

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AWARDS.

GOLD MEDAL, International Health Exhibition, London, 1884.
FIRST ORDER OF MERIT AND MEDAL (Highest Award), Adelaide, 1887.
HIGHEST AWARD, Medical and Sanitary Exhibition, London, 1882.
FIRST ORDER OF MERIT AND MEDAL, Melbourne, 1888.

Liquor Pancreaticus (Benger).

For the preparation of peptonised or partially digested Milk and other articles of food.

Simple directions for use enclosed. In 4 oz., 8 oz., and 16 oz. Bottles.

The *British Medical Journal*, in an article on Benger's Preparations, says:—"Time and use have justified the claims put forward for these preparations."

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Liquor Pepticus (Benger).

An exceedingly active fluid pepsine, without disagreeable taste.

DOSE. — One or two teaspoonfuls with meals. In 4 oz., 8 oz., and 16 oz. Bottles.

Benger's Peptonised Beef Jelly.

A delicious quick restorative for Invalids and the Aged. In patent glass jars, no metallic contamination possible. Retail, 2s. each.

The Lancet says:—"It is a most valuable form of concentrated food."

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Benger's Peptonised Chicken Jelly.

In similar glass jars. Retail, 2s. each.

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The *Medical Press* says:—Few modern improvements in pharmacy have done so much as Benger's Preparations to assist the physician in the treatment of the sick."

Benger's Preparations may be obtained through all Retail and Wholesale Houses and Shippers, or of the Manufacturers—

F. B. BENGER & CO., LTD., Otter Works, Manchester.

TELEGRAPHIC ADDRESS—"Benger's, Manchester."